United States Court of Appeals

for the Second Circuit

EXHIBITS

76-7284 & 76-7297

United States Court of Appeals

For the Second Circuit

B

P/S

NAVIEROS OCEANIKOS, S. A., owner of the Liberian Vessel TRADE DARING,
Plaintiff-Appellant-Appellee,

against

S. T. MOBIL TRADER, her engines, boilers, etc., MOBIL OIL CORPORATION, the owner of the MOBIL TRADER, and MOBIL SALES & SUPPLY CORPORATION,
Defendants and Third-Party Plaintiffs-Appellees-Appellants,

against

TRADE & TRANSPORT, INC.,
Third-Party Defendant-Appellee.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK.

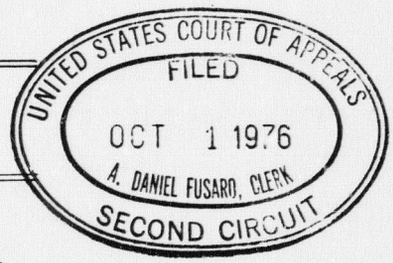

EXHIBIT VOLUME.

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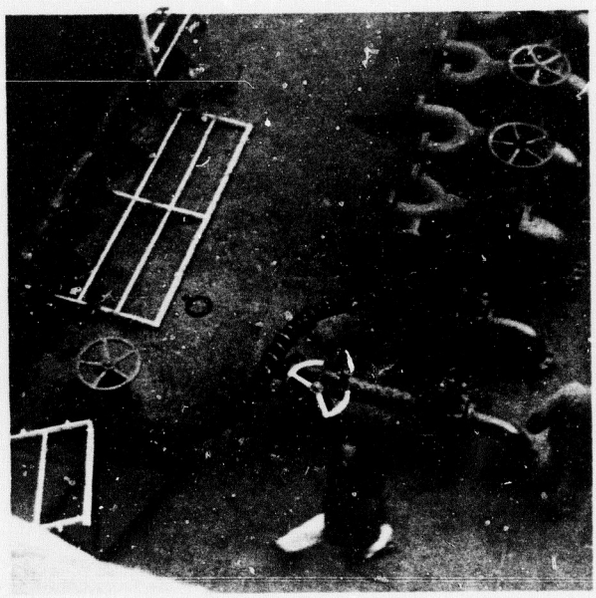

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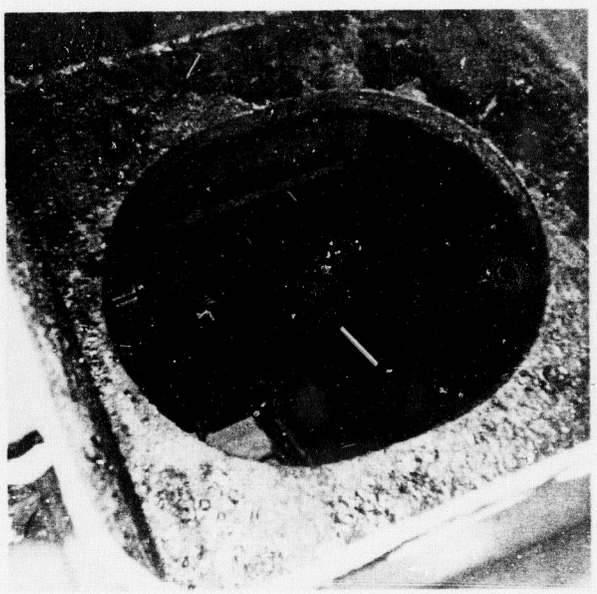
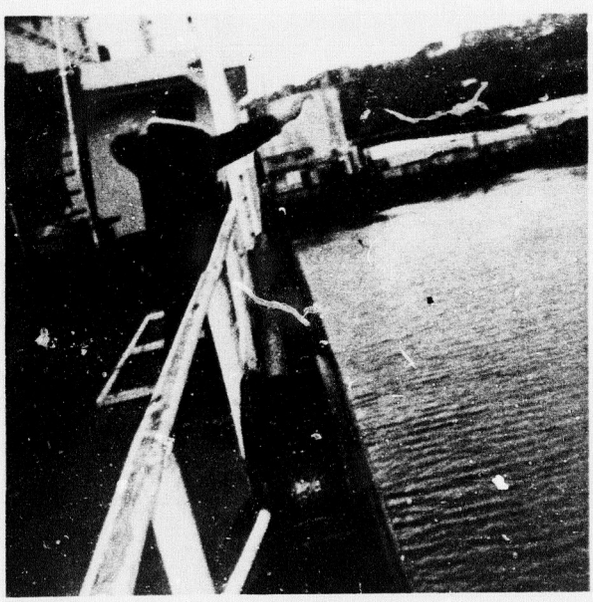


PLAINTIFF'S EXHIBIT 5



PLAINTIFF'S EXHIBIT 6

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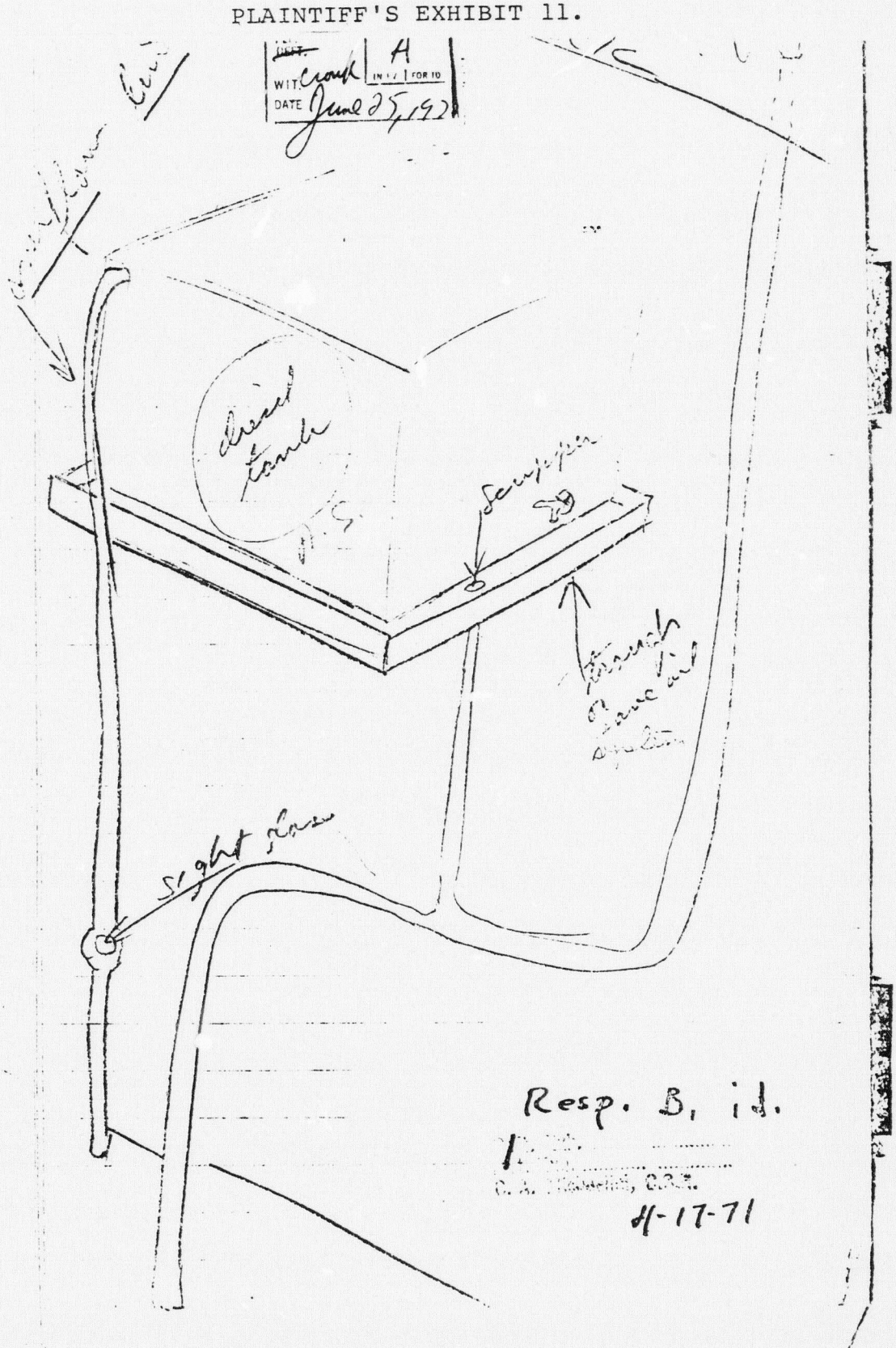
PLAINTIFF'S EXHIBIT 11.



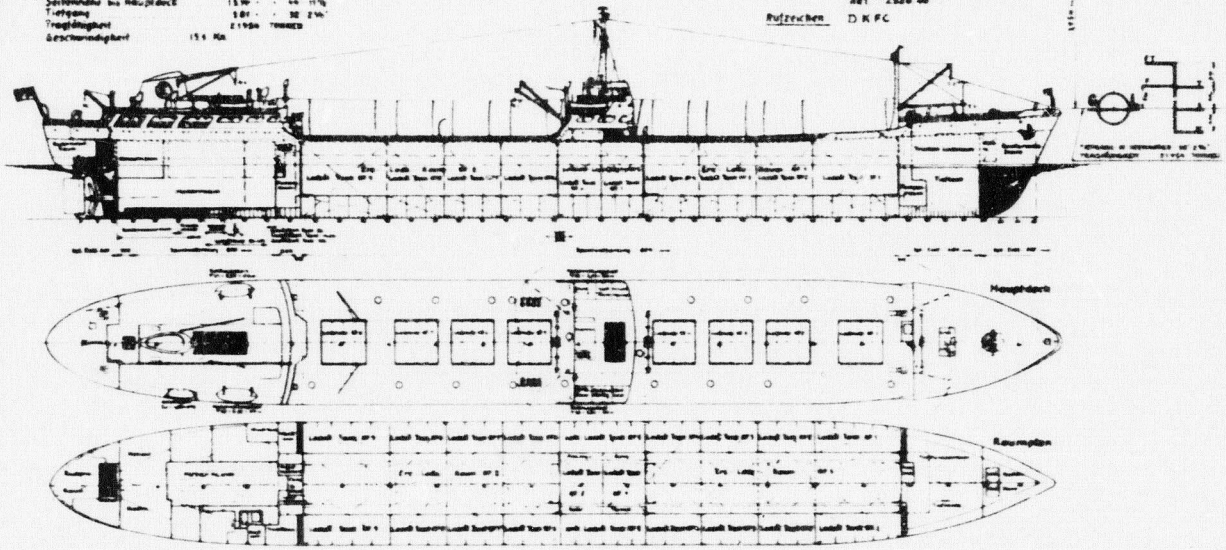
ERZ- u. ÖL- MOTORFRACHTSCHIFF „~~BERTHA ENTZ~~" TRADE DARING

LADEPLAN

Klasse: Germanischer Lloyd ✠ 100 A 4 Erz + Öl
American Bureau of Shipping
✠ A1 ✠ OIL and Ore Carrier AMS EAC

Tonnage: BRT 15000.89
NRT 2530.00

Rufzeichen: D K F C



Maschinenanlage

Hauptmotor: Ein doppeltwirkender 2 Takt 8 Zylinder Dieselmotor MAN Type D 8 Z 70/120 mit eingebautem Spülluftpumpe mit einer Leistung von 8000 PSe bei 115 U/M und einem mittleren Druck von 5.1 kg/cm²

Kessel:

Zwei Kessel mit Ölfeuerung jeder mit einer Heizfläche von 200 m² äußerem Durchmesser 4250 mm Länge 5150 mm und einem Druck von 15 kg/cm² Ex Kessel Nr 2112 Typ M 211
Ein Abgaskessel mit einer Heizfläche von 185 m² Durchmesser 2895 mm Länge 4700 mm und einem Druck von 15.5 kg/cm²
Kessel Nr 2114 Gebaut bei Kieler Howaldtswerke Aktiengesellschaft

Rohrleitungen

[illegible] jeder Hauptladeölpumpe 8" und 4" im Anschluß 12" mit 2 x 8 Stutzen Zwischen zwei Schotten und verschiedenen Rohrsträngen [illegible] Verbindungsleitung von 12" DN und 5" Hauptladeölleitungen 12" Querleitungen 10" in Schiffsmitte Hauptladeölleitungen und Rohrkanalquerleitungen in der Tankdecke

Ladeölpumpen

1. Hauptladeölpumpen 300 l/min 300 l/min 1 PS 1 kW
2. Nachlenzpumpen 270 l/min 150 l/min 1 PS 1 kW

Heizrohre

Außenrohre Rohre für Heizschlangen in den Ladetanks Material Angle Seam mit einer Heizfläche von [illegible] m²

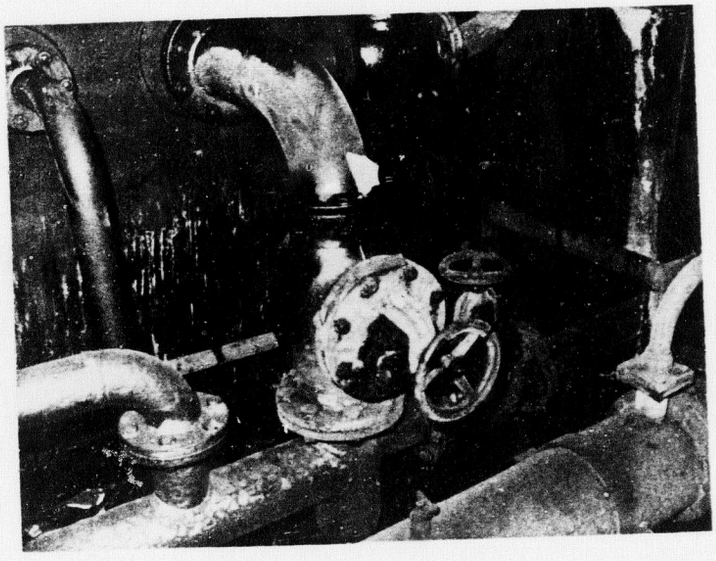
Ladeskala

Frischwasser		Seewasser			
Dreck Content	Trag Content	Dreck Content	Trag Content		
m³	m³	m³	m³		Fuß
				34	
				33	
				32	
				31	
				30	
				29	
				28	
				27	
				26	
				25	
				24	
				23	
				22	
				21	
				20	
				19	
				18	
				17	
				16	
				15	
				14	
				13	
				12	
				11	
				10	
				9	
				8	

INHALTE DER LADE- BALLASTWASSER TANKS

| | | | |

PLAINTIFF'S EXHIBIT 13.



PLAINTIFF'S EXHIBIT 14.

Treiböltank Bb. Spant 47-51

Seitenbunker Bb
A. OIL SIDE TK. PORT.

Bau 988

FT	IN	m³	FT	IN	m³	FT	IN	m³	FT	IN	m³
0	0	0,0	15	0	51,1	30	0	130,2	45	0	213,0
	3	0,0		3	52,3		3	131,7			
	6	0,1		6	53,5		6	133,1			
	9	0,1		9	54,8		9	134,5			
1	0	0,2	16	0	56,0	31	0	135,9			
	3	0,4		3	57,2		3	137,3			
	6	0,7		6	58,4		6	138,8			
	9	0,9		9	59,7		9	140,2			
2	0	1,2	17	0	60,9	32	0	141,6			
	3	1,6		3	62,1		3	143,0			
	6	2,0		6	63,3		6	144,4			
	9	2,5		9	64,6		9	145,9			
3	0	2,9	18	0	65,8	33	0	147,3			
	3	3,4		3	67,1		3	148,7			
	6	3,9		6	68,3		6	150,1			
	9	4,5		9	69,6		9	151,5			
4	0	5,0	19	0	70,8	34	0	153,0			
	3	5,7		3	72,1		3	154,4			
	6	6,4		6	73,4		6	155,8			
	9	7,2		9	74,6		9	157,2			
5	0	7,9	20	0	75,9	35	0	158,6			
	3	8,6		3	77,2		3	160,1			
	6	9,4		6	78,4		6	161,5			
	9	10,1		9	79,7		9	162,9			
6	0	10,9	21	0	80,9	36	0	164,3			
	3	11,8		3	82,2		3	165,7			
	6	12,7		6	83,5		6	167,2			
	9	13,6		9	84,7		9	168,6			
7	0	14,5	22	0	86,0	37	0	170,0			
	3	15,6		3	87,4		3	171,4			
	6	16,7		6	88,7		6	172,8			
	9	17,8		9	90,1		9	174,2			
8	0	19,0	23	0	91,4	38	0	175,7			
	3	20,1		3	92,8		3	177,1			
	6	21,2		6	94,2		6	178,5			
	9	22,3		9	95,5		9	179,9			
9	0	23,4	24	0	96,9	39	0	181,3			
	3	24,5		3	98,2		3	182,8			
	6	25,6		6	99,6		6	184,2			
	9	26,7		9	101,0		9	185,6			
10	0	27,8	25	0	102,3	40	0	187,0			
	3	28,9		3	103,7		3	188,4			
	6	30,0		6	105,0		6	189,8			
	9	31,1		9	106,4		9	191,3			
11	0	32,2	26	0	107,8	41	0	192,7			
	3	33,4		3	109,1		3	194,1			
	6	34,5		6	110,5		6	195,5			
	9	35,7		9	111,8		9	196,9			
12	0	36,9	27	0	113,2	42	0	198,3			
	3	38,0		3	114,6		3	199,8			
	6	39,2		6	116,0		6	201,2			
	9	40,4		9	117,5		9	202,6			
13	0	41,5	28	0	118,9	43	0	204,0			
	3	42,7		3	120,3		3	204,7	Überlauf		ONE FOOT
	6	43,9		6	121,7		6	205,4			
	9	45,0		9	123,1		6	206,0			
14	0	46,2	29	0	124,6		9	206,3			
	3	47,4		3	126,0	44	0	206,7			
	6	48,6		6	127,4		3	21,0			
	9	49,9		9	128,8		6	21,0			
							9	21,0			

PLAINTIFF'S EXHIBIT 14

Treiböltank Stb. – Seitenbunker Stb
Spant 44 – 51 Bunker 5 Stb. – Bunker 6 Stb.

FT	IN	m³	FT	IN	m³	FT	IN	m³	FT	IN	m³
0	0	0,0	15	0	51,0	30	0	148,5	45	0	268,9
	3	0,1		3	52,2		3	150,5			
	6	0,1		6	53,4		6	152,6			
	9	0,2		9	54,6		9	154,6			
1	0	0,3	16	0	55,8	31	0	156,6			
	3	0,5		3	57,0		3	158,7			
	6	0,7		6	58,2		6	160,7			
	9	1,0		9	59,4		9	162,8			
2	0	1,2	17	0	60,7	32	0	164,8			
	3	1,6		3	61,9		3	166,8			
	6	2,1		6	63,1		6	168,9			
	9	2,5		9	64,3		9	170,9			
3	0	3,0	18	0	65,5	33	0	172,9			
	3	3,5		3	66,7		3	175,0			
	6	4,0		6	68,0		6	177,0			
	9	4,6		9	69,2		9	179,1			
4	0	5,1	19	0	70,5	34	0	181,1			
	3	5,8		3	71,7		3	183,1			
	6	6,6		6	73,0		6	185,2			
	9	7,3		9	74,2		9	187,2			
5	0	8,0	20	0	75,5	35	0	189,2			
	3	8,8		3	76,7		3	191,3			
	6	9,5		6	78,0		6	193,3			
	9	10,3		9	79,2		9	195,4			
6	0	11,0	21	0	80,5	36	0	197,4			
	3	12,0		3	81,8		3	199,4			
	6	12,9		6	83,5		6	201,5			
	9	13,9		9	85,0		9	203,5			
7	0	14,9	22	0	86,5	37	0	205,5			
	3	15,9		3	88,3		3	207,6			
	6	16,8		6	90,1		6	209,6			
	9	17,8		9	91,9		9	211,7			
8	0	18,8	23	0	93,7	38	0	213,7			
	3	19,9		3	95,6		3	215,7			
	6	21,0		6	97,4		6	217,8			
	9	22,0		9	99,2		9	219,8			
9	0	23,1	24	0	101,0	39	0	221,8			
	3	24,2		3	103,0		3	223,9			
	6	25,3		6	104,9		6	225,9			
	9	26,4		9	106,9		9	228,0			
10	0	27,5	25	0	108,9	40	0	230,0			
	3	28,6		3	110,9		3	232,1			
	6	29,7		6	112,9		6	234,2			
	9	30,9		9	114,8		9	236,3			
11	0	32,0	26	0	116,8	41	0	238,4			
	3	33,1		3	118,8		3	240,5			
	6	34,2		6	120,8		6	242,6			
	9	35,4		9	122,8		9	244,6			
12	0	36,5	27	0	124,7	42	0	246,7			
	3	37,7		3	126,7		3	248,8			
	6	38,9		6	128,7		6	250,9			
	9	40,1		9	130,7		9	253,0			
13	0	41,3	28	0	132,7	43	0	255,1			
	3	42,6		3	134,6		3	257,2			
	6	43,7		6	136,6		6	259,3			
	9	44,9		9	138,6		9	261,4			
14	0	46,2	29	0	140,6	44	0	263,5			
	3	47,4		3	142,6		3	265,5			
	6	48,6		6	144,5		6	267,6			
	9	49,8		9	146,5		9	269,7			

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PLAINTIFF'S EXHIBIT 18a.

M/V TRADE DARING

Rough Deck Log Book

Abstract

Hours		Remarks
2120	Wednesday, March 17, 1971	Finished discharging.
2130	"	Disconnected hoses.
2140	"	Commenced ballasting sea water.
2255	"	Commenced receiving bunkers.
2350	"	Pilot aboard.
0045	Thursday, March 18, 1971	Finished receiving bunkers.
0050	"	The Master ordered the barge to stop giving bunkers.
0052	"	Fire in the engine room, dock pilot aboard. The engineers abandoned the engine room because the fire has spread, there is also high temperature and thick smoke and we are unable to enter the engine room. Crew was ordered to close down the skylights, the ventilators and the side openings which assist the engine ventilation

PLAINTIFF'S EXHIBIT 18a

Hours		Remarks
		in order to curb the air, however the fire has spread in the aft accomodations.
0100	"	Bunkering barge away. Two tugs are coming by forward to tie up.
0110	"	Two tugs have tied up, one on the starboard side forward and the other by the bow. The workers were ordered to cut off the forward lines and the aft lines to be cut off by a third tug in order to enable us to leave the oil dock. The fire in the aft accomodations is out of control and there is danger of explosion. Part of the crew has gone ashore.
0125	"	With assistance of tugs the vessel was turned around and are proceeding to the anchorage. One tug is shooting water to the aft accomodations.
0230	"	Anchored by M. Buoy at the Perth Amboy Anchorage with 4 shackles from our starboard anchor. The vessel is burning fiercely in her aft accomodations.

PLAINTIFF'S EXHIBIT 18a

Hours		Remarks
0240	"	Pilot, crew and the Master are abandoning the vessel and boarding a tug to take them ashore. The fire aft is still out of control and the vessel is running the risk of explosion.

EXACT TRANSLATION FROM GREEK TO ENGLISH

PLAINTIFF'S EXHIBIT 20A. May 14, 1975

TRANSLATION

DECK LOG-BOOK

p. 380

ANTWERP - NEW YORK, U.S.A.

Monday, March 15, 1971

0000	Ship's time ZT = GMT-5
0400	Cloudy, sea slight, visibility good.
0800	Sea slight, partly cloudy, visibility good.
1105	In position Lat. 40°10.5"N Long. 68° 19.5"W. Altered course as opposite.
1200	Partly cloudy, sea slight, visibility good.
1520	Abeam L/V"NANTUCKET SHOALS" Distance off 1 mile, altered course as opposite.
1600	Partly cloudy, sea moderate, visibility moderate.
2000	Sea rough, cloudy, visibility moderate.
2400	Cloudy, sea very rough, visibility good.

p. 381

Tuesday, March 16, 1971

0153	Abeam L/B "NA" distance off 0.8 miles.
0400	Cloudy, sea moderate, visibility good.
0455	Abeam L/B "NB" distance off 0.5 mi.
0635	Abeam L/B "NC" distance off 0.5 mi.
0654	Engine standby, end of sea passage.

PLAINTIFF'S EXHIBIT 20A

0712	Abeam AMBROSE LIGHT distance off 0.7 mi.
0715	Pilot boarded.
0849	Passed SEGUINE Pt.
0912	Dock pilot boarded, 2 tugs arrived.
1005	Began mooring at Hess Terminal, Perth Amboy
1035	Tugs left, mooring completed, finished with engine.
1045	Authorities boarded. Draft forward 33'03", aft 29'09".
1230	Two cargo hoses connected.
1300	Commenced discharge.
1400	Commenced receiving water.

p. 382

At PERTH AMBOY, HESS TERMINAL

Wednesday, March 17, 1971

0000	Discharge continues.
1200	Same.
1945	Made fast bunkering barge.
2120	Completed receiving water.
2130	Cargo hoses disconnected.
2140	Began ballasting.
2255	Began receiving bunkers.
2350	Pilot boarded.

PLAINTIFF'S EXHIBIT 20A

p. 383

At PERTH AMBOY, HESS TERMINAL

Thursday, March 18, 1971

0045 Completed bunkering.

0050 The Master ordered the barge to stop bunkering.

0052 Fire in engine room, dock pilot boarded. The engineers are abandoning the enginercom because the fire spread, also high temperature, dense smoke, we are unable to enter the engineroom. The crew was ordered to close the skylights, the ventilators and the openings for natural draft of the engineroom so that the air may be restricted but the fire extended to the after accommodation.

0100 Barge away. Two tugs approaching forward to make fast.

0110 Two tugs made fast, one at ship's starboard side forward and the other forward. Dock workers were ordered to cut off the mooring lines forward and the aft mooring lines to be cut off by one third tug so that we may be able to get away.....

p. 384

Thursday, March 18, 1971 (Contd.)

.....from the dock of the oil terminal. The fire is out of control in the after accommodation and there is danger of explosion. Part of the crew

PLAINTIFF'S EXHIBIT 20A

disembarked ashore.

0125 Vessel turned assisted by tugs and we are proceeding towards the anchorage. One tug is working shooting water to the after accommodation.

0230 Anchored at M Buoy anchorage of Perth Amboy, 4 shackles in the water with starboard anchor. The vessel is burning violently in the after accommodation.

0240 Pilot, crew and Master abandoned the ship and disembarked onto the tug to take them ashore. The fire aft is in a state beyond control. The vessel is in danger of explosions.

p. 385 (No entries)

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PLAINTIFF'S EXHIBIT 21.

m/v TRADE DARING

BIEHL & CO.
U. S. GULF PORTS

STORE LIST

of

M/S TRADE DARING
S/S
Arr. MARCH 16th 1971 From ANTWERP
Master P. GIALOURAKIS Net 9157 Gross 15510 Crew 35

STEWARDS DEPARTMENT

Bread	Lbs.	60
Biscuit	"	Nil
Bacon and Ham	"	100
Butter and Margarine	"	250
Cheese	"	200
Cocoa and Chocolate	"	20
Coffee	"	150
Eggs	doz.	40
Fish, fresh	lbs.	100
" dried, salt	"	Nil
Fruit, dried	"	2[illegible]
" fresh	"	500
" preserves	tins	300
Flour	lbs.	1000
Lard	"	Nil
Macaroni	"	300
Meats, fresh	"	3200
" salt	"	Nil
" preserved	tins	120
Marmalade and Jam	"	100
Milk	"	400
Mustard	"	15
Olive Oil	lbs.	30
Peas, beans, etc	lbs.	150
Pickles	bottle	32
Pork, fresh	lbs.	100
" salt	"	Nil
Potatoes	"	500
Rice	"	300
Salt	"	100
Sausage	"	60
Sauces	bottle	60
Spices	lbs.	15
Sugar	"	250
Small preserves	tins	Nil
Syrup and Juices	lbs.	300
Tea	"	10
Vegetables, fresh	"	150
" preserved	tins	272
Vinegar	Gallo.	5
Alive Stores	heads	None
Beer	bottle	624
"	casks	Nil
Cigarettes	pieces	113000
Cigars	"	Nil
Champagne	bottle	Nil
Cognac	"	Nil
Cordials	"	Nil
Gin	"	
Lime Juices	"	Nil
Liquors	"	Nil
Mineral Water	"	Nil
Rum	"	7
Tobacco	lbs.	Nil
Whiskey	bottle	39
"	gall.	Nil
Wines	Bottle	4

DECK AND ENGINE DEPARTMENT

Bags, empty	pcs.	Nil
Blocks	"	Nil
Boards	feet	Nil
Brooms	pcs.	15
Candles	"	Nil
Canvas, new	yds.	40
Coal	tons	Nil
Cordage	lbs.	Nil
Drums, empty	pcs.	195
Firebars	As Per International	
Firebrick	Safety Regulations	
Grease	lbs.	80
Matches	pcs.	100
Metal, new	lbs.	Nil
Nails	"	[illegible]
Oakum	"	Nil
Oil, fuel	tons	
" diesel	"	165
" engine	gals	1191
" cylinders	gall.	1370
" paint	"	Nil
Paint	lbs.	Gall. 6
Paint brushes	pcs.	9
Packing	lbs.	100
Petroleum	gall.	Nil
Pitch	lbs.	Nil
Soap	"	30
Soda	"	100
Tar	"	Nil
Tarpaulins, new	pcs.	Nil
Turpentine	gall.	5
Twine, sail	lbs.	Nil
Varnish	gall.	5
Waste, cotton	lbs.	150
Wire	Coils	2

ARMAMENT

Cartridges, Rifle	pcs.	Nil
" Machine gun	"	Nil
" for Revolvers	"	23
Gun	"	Nil
Machine gun	"	Nil
Rounds for guns	"	Nil
Rockets	As per International	
Smoke floats	Safety Regulations	
Revolver	pc	1

IN CAPTAIN'S SAFETY

Medical Narcotics Drugs		bottle	
OPIUM	0.03	Tblts	40
DOLADIN	0.025	"	20
TIGAN			195
MORPHINUM	0.02	Amps	10
Cameras		pcs.	
Musical Instruments		"	Nil
Radio Apparatus		"	3
Typewriters		"	5
Div.		"	

AND ALL OTHER ARTICLES OF EQUIPMENT AND INSTRUMENTS FOR THE PROPER WORKING AND SAFE NAVIGATION OF THE VESSEL.

M/V TRADE DARING
GR. TON. 15510/15004
[illegible]
MONROVIA

Dated at sea MARCH 16th 1971 19

P. Gialourakis
Master.

21

CO-1045 (7-69)

Mobil

delivery receipt

VESSEL	DATE LOADED
MOBIL TRADER	03-17-71
DATE ARRIVED	ALONGSIDE
03-17-71 M	1930 M
STARTED PUMPING	FINISHED PUMPING
2250 M	2245 M
VESSEL CAPTAIN/~~MATE~~	H. BANKS.

DELIVERED TO M/S TRADE DARING AT HESS PERTH AMBOY

PRODUCT BONDED BUNKER DIESEL LOADED AT PORT MOBIL

TANK NO.	GAUGE	PORT FEET	PORT INCHES	PORT TEMP.	PORT GROSS BBLS. OR GALS.	STARBOARD FEET	STARBOARD INCHES	STARBOARD TEMP.	STARBOARD GROSS BBLS. OR GALS.
1	OPEN	13	3	45	7641				X
	CLOSE								
2	OPEN				X				X
	CLOSE								
3	OPEN	3	0	45	53826	3	1/4	45	53957
	CLOSE								
4	OPEN				X				X
	CLOSE								
5	OPEN								
	CLOSE								
6	OPEN								
	CLOSE					NET METRIC TON			
7	OPEN								379.79
	CLOSE								

TESTS	
GRAVITY: SPECIFIC AT 60° F	.8660
A.P.I. AT 60° F	31.9
VISCOSITY: SSF AT 122° F	
SSU AT 100° F	44.7
FLASH POINT	220°
POUR POINT	
	Sulphur 0.80%
COEFFICIENT OF EXPANSION	1.0060
GALLONS: GROSS	115424
NET	116116
BARRELS: GROSS	
NET	2764.66
TONS: NET	373.80

REMARKS:

OPENING ULLAGES CHECKED BY

CLOSING ULLAGES CHECKED BY

RECEIVED THE ABOVE OIL AS DESCRIBED IN GOOD CONDITION AND WITNESSED BY

(CHIEF ENGINEER) (CAPTAIN)

PLAINTIFF'S EXHIBIT 23.

15

3-17-74 Port Arriving

BARGE REPORT

Pf 4 3 fft
12 6/13/74

CO 267 (4-68)

BARGE Marshall Tender | TOW | ACCOUNT | REPORT NO. | CONSIGNED TO

LOADED OR ~~PARTLY UNLOADED~~ AT Port Mabel	ARRIVED	SPOTTED	START PUMP	FINISH PUMP	RELEASED	DEPARTED
DATE	3-17-74	3-17	3-17	3-17	3-17	3-17-74
TIME	1530	1530	2200	3 40	3 20	

UNLOADED AT Trade Baking	ARRIVED	SPOTTED	START PUMP	FINISH PUMP	RELEASED	DEPARTED
DATE						
TIME						

GRADE	PRODUCT	UPON DEPARTURE: GRAVITY @ 60°	GAUGE OR ULLAGES FEET	INCHES	GROSS BBLS. OR GALLONS	WATER IN. CHES	WATER BBLS. OR GALLONS	GROSS/NET BBLS. OR GALLONS	TEMP.	COMPARTMENT	UPON ARRIVAL: GAUGE OR ULLAGES FEET	INCHES	GROSS BBLS. OR GALLONS	WATER IN. CHES	WATER BBLS. OR GALLONS	GROSS/NET BBLS. OR GALLONS	TEMP.	RESIDUE AFTER UNLOADING - ULLAGE
E	Bonded Diesel	31.9	15	5	9641				45°	PORT 1								
E	Bonded Diesel	31.7	3	0	58876				41	2								
										3								5
										4								
										5								
										6								
										7								
										8								
										9								
										10								
E	Bonded Diesel	31.7	—							STAR 1								
										2								
E	Bonded Diesel	31.9	3	0¼	53957				41°	3								
										4								
										5								
										6								
										7								
										8								
										9								
										10								

	TEMP. RIVER WATER	DRAFT BEFORE FWD	DRAFT BEFORE AFT	DRAFT AFTER FWD	DRAFT AFTER AFT
LOADING	39°	0 0	5 6	8 0	8 0
UNLOADING					

	PRODUCT SEQUENCE	LOADED - BBLS. OR GALS. NET	LOADED - BBLS. OR GALS. 60°	ACCURACY FACTOR	BILLED - BBLS. OR GALS.	PRODUCT SEQUENCE	UNLOADED - BBLS. OR GALS. NET	UNLOADED - BBLS. OR GALS. 60°
1	Bonded Diesel	113424						
2								
3								
4								

GAUGES VERIFIED (Signature)	LOADING BARGE	LOADING SHORE	UNLOADING BARGE	UNLOADING SHORE
	H. Banks	M. Keen		

NOTE: Make separate CO-267 for each four (4) products. Consider ullages after a part unloading as loading ullages, sending copies with Barge to next station.

Spec.
Grv. 31.9
Ft. 220
Visc. cm 44.7
Sulf 0.80

PLAINTIFF'S EXHIBIT 24.

16

BARGE REPORT

CO-267 (4-65)

REPORT NO.

BARGE | TOW | ACCOUNT | CONSIGNED TO

LOADED OR PARTLY UNLOADED AT

	ARRIVED	SPOTTED	START PUMP	FINISH PUMP	RELEASED	DEPARTED
DATE						
TIME						

UNLOADED AT

	ARRIVED	SPOTTED	START PUMP	FINISH PUMP	RELEASED	DEPARTED
DATE						
TIME						

PRODUCT	UPON DEPARTURE							COMPARTMENT	UPON ARRIVAL							RESIDUE AFTER UNLOADING - ULLAGE
	GRAVITY @ 60°	GAUGE OR ULLAGES FEET	INCHES	GROSS BBLS. OR GALLONS	WATER INCHES	WATER BBLS. OR GALLONS	GROSS/NET BBLS. OR GALLONS	TEMP		GAUGE OR ULLAGES FEET	INCHES	GROSS BBLS. OR GALLONS	WATER INCHES	WATER BBLS. OR GALLONS	GROSS/NET BBLS. OR GALLONS	TEMP.	
								PORT 1								
								2								
								3								
								4								
								5								
								6								
								7								
								8								
								9								
								10								
								STAR 1								
								2								
								3								
								4								
								5								
								6								
								7								
								8								
								9								
								10								

	TEMP RIVER WATER	DRAFT BEFORE FWD	DRAFT BEFORE AFT	DRAFT AFTER FWD	DRAFT AFTER AFT	PRODUCT SEQUENCE	LOADED - BBLS. OR GALS. NET	LOADED - BBLS. OR GALS. 60°	ACCURACY FACTOR	BILLED - BBLS. OR GALS.	PRODUCT SEQUENCE	UNLOADED - BBLS. OR GALS. NET	UNLOADED - BBLS. OR GALS. 60°
LOADING						1					1		
						2					2		
UNLOADING						3					3		
						4					4		

GAUGES VERIFIED (Signature)	LOADING BARGE	LOADING SHORE	UNLOADING BARGE	UNLOADING SHORE

NOTE: Make separate CO-267 for each four (4) products.

Consider ullages after a part unloading as loading ullages, sending copies with Barge to next station.

PLAINTIFF'S EXHIBIT 24

PLAINTIFF'S EXHIBIT 24

Truck Hauling

B.B.D

~~St~~

10060

8660

Sh. gal	115424
Tu. Gal	116116
Net BBL	2764.66
Net Ton	373.80
Metric Ton	379.79

2764.66
42) 116116.00
84
321
294
271
252
196
168
280
252
280

373.80
7396) 2764660.00
22188
54558
51772
28140
22188
59520
59168
3520

PLAINTIFF'S EXHIBIT 24

101605
373P0
8128400
304815
711235
304815
3799949 00

PLAINTIFF'S EXHIBIT 24

	P	S
1	13-3 7641	
2		
3	3-0 53826	3-0-1/4 53951 53826 7641
4		155424

PLAINTIFF'S EXHIBIT 26.

7-2-4 *Bunkering*

The chief engineer shall personally supervise the bunkering of his vessel and shall be held personally responsible for all discrepancies or overflows of bunker fuel oil.

He shall take a sample at each bunkering and shall retain such samples for a period of two months after the supply from which taken is exhausted.

PLAINTIFF'S EXHIBIT 42. EXHIBIT 42

American Bureau of Shipping

Forty-five Broad Street

New York, N. Y. 10004

Refer to: JRB

1 July 1975 File Ref: S-1

Poles, Tublin, Patestides & Stratakis
46 Trinity Place
New York, NY 10004

Attention: Mr. Matera

Re: SS TRADE DARING
ex BERTHA ENTZ

Gentlemen:

Further to the material we have furnished to you, we are also enclosing one (1) copy of report number BR5969, dated Bremen, Germany, March 1, 1971.

Very truly yours,

AMERICAN BUREAU OF SHIPPING

J. R. BLACKEBY
Secretary

enc.

PLAINTIFF'S EXHIBIT 42

American Bureau of Shipping

45 BROAD STREET, NEW YORK, N. Y. 10004

Report No. BR5969 — Bremen, Germany, March 1, 1971

M.V. "TRADE DARING" ex "BERTHA ENTZ"

THIS IS TO CERTIFY that the undersigned Surveyor to this Bureau did, at the request of the Owners Representative, attend the single screw steel motor vessel "TRADE DARING", of Monrovia, Liberia, Official Number 3505 as the vessel lay afloat at Oil Pier, Emden, Germany on the 28th day of February, 1971, and subsequent date, in order to examine and report upon Cargo Ship Safety Construction Survey. For further particulars see report as follows: -

REGULATION 26: Emergency diesel generator outside of engine room at forward end of aft accommodation main deck.
1. Emergency lightning provided.
2. General alarm provided from battery.
3. Navigation lights provided.

REGULATION 27: Electrical installation in accordance with Bureau Requirements.

REGULATION 28: Vessel has sufficient power for going astern to secure proper control of the vessel in all circumstances.

REGULATION 29: Steering engine and equipment was found operating satisfactorily. Rudder indicator provided at bridge. Dual power electric hydraulic steering gear.

REGULATION 33: Vessel is fitted with engine room telegraph and sound powered telephone between bridge and engine room.

REGULATION 54: Vessel constructed of steel. Two (2) fire pumps in engine room, one (1) emergency fire pump in emergency diesel generator room and one (1) fire ballast pump in forward pump room, sufficient number of portable fire extinguishers. All fire extinguishing apparatus in satisfactory condition.

REGULATION 68: Means of escape from crews quarters and machinery space are provided.

REGULATION 69: Means of stopping ventilation fans from outside engine room spaces in case of fire are provided. Remote controls for stopping oil pumps are located outside of engine room spaces.

PLAINTIFF'S EXHIBIT 42

Report No. BR5969
(MV "TRADE DARING")

Bremen, Germany
March 1, 1971

REGULATION 69: All valves on fuel oil tanks provided with remote controls capable of being closed from outside machinery spaces.

A Safety Construction Certificate valid until August 1, 1971, was issued pending issuance of final certificate.

G. Nachtigall - Surveyor

PLAINTIFF'S EXHIBIT 42

American Bureau of Shipping
Forty-five Broad Street
New York, N. Y. 10004

Refer to: JRB
File Ref: S-1

30 June 1975

Poles, Tublin, Patestides & Stratakis
46 Trinity Place
New York, NY 10004

Attention: Mr. Matera

Re: SS TRADE DARING
ex BERTHA ENTZ

Gentlemen:

Further to the records that we furnished in court this morning and in accordance with your request, we are enclosing copies of the following:

1. Report No. BR5970, dated Bremen, Germany, March 1, 1971.

2. Report No. BR5968, dated Bremen, Germany, March 1, 1971.

3. Certificate No. KL107X, dated, Kiel, Germany, 2-4-55.

4. Status of Surveys and Outstanding Recommendations dated August 4, 1971.

We are also enclosing our invoice in the amount of $20.00 covering the cost of furnishing these copies.

Very truly yours,

AMERICAN BUREAU OF SHIPPING

J. R. BLACKEBY
Secretary

enc.

PLAINTIFF'S EXHIBIT 42

FILE

American Bureau of Shipping

TO: PIRAEUS OFFICE
AIR MAIL

New York

WEDNESDAY, AUGUST 4, 1971

Status of Surveys and Outstanding Recommendations

M/V NIKOS KAZANTZAKIS ~~"TRADE DARING"~~
Name of Vessel

Keel Laid 1954 TS Dia.

SS No. 4 (Hull) due 11-71	SS (Mchy.) due
Continuous (Hull) Survey Last Cycle Completed	Continuous (Mchy.) Survey Last Cycle Completed 1-68
Intermediate Survey due Done Yes 11-69	Annual Blr. Survey due 6-71 Last Internal Exam. 6-70
Annual Survey due 6-71	Tailshaft Dwg. due 5-72
Last Drydocking 3-70	Port Starboard
Last Gaugings 4-67	Tubeshaft Dwg. due
Approved YES 6-4-69	Port Starboard
An. LL. Insp. due 6-71	Refrig. Mchy. SS due
Loadline Cert. exp. 11-30-72 GREEK	Refrig. Mchy. Const. Svy. Comp.
SLC (Const.) Cert. exp. 8-1-71	Refrig. Mchy. Int. Svy. due
SLE (Equip.) Cert. exp. 8-1-71	Refrig. Mchy. Annual Svy due
SLR (Radio) Cert. exp. 6-10-71	Last Refrig. Loading Svy.
Cargo Gear Quad. Svy. due	
Cargo Gear An. Insp. due	

* Commenced SS Year of Grace Survey made (yes or no) Granted (yes or no)

Surveys made

Report No.	Date	Type
RO 10 372	4-14-67	DKD(C&B) A.S. AuMS, TS Dia. Gauging, * B.S. Cont MS
MT 1691	11-1-67	DKD(C&B) CMCT SS#3, BS Compl. Cont MS
BR 5340	1-29-68	Compl SS#3 Comb Cert MS H&M RPRS (11-67)
BR 5340LL	1-29-68	ALL-GERMAN LL ASMT.
BR 5397	4-6-68	DKD(C&B) A.S. AuMS, BS EXT
BL 46.4.2	12-1-68	MAIN ENG. OHM & REPAIRS
BR 5620	6-2-69	DKD AS, AuMS, BS, NTS INST MS, H REPAIRS
RO 12, 397	10-1-69	H.W. Dam. Repairs 9-26-69
BR 5, 697	11-27-69	DKD(C&B) A.S. AuMS INT CMS
BR 5 T35	3-4-70	DKD(S&B) H REPAIRS
MO 2989	5-8-70	CMS S/L REASSIGNMENT
MO 3990	5-8-70	PROV L/LTD 6-7-70
DK 28	4-17-70	CMCT BS
GE 15413	6-10-70	SLR
MO 3010	7-14-70	CMS
GE 15411	6-10-70	AS AuMS, B.S ALT. FOR S/L CMS
GE 15412	6-10-70	RENEWAL L/LTD 12-10-70
BY 505	9-1-70	CMS
BR 5770	3-1-71	SLE
BR 5869	3-1-71	SLE
NY 909	5-18-71	First Damage

Outstanding Recommendations

Report No.	Date
~~BR 4953~~	~~4-1-66~~
~~RO 10 367~~	~~4-14-67~~
~~RO 10 372~~	~~4-14-67~~
~~RO 10 372~~	~~4-14-67~~
~~MT 1691~~	~~11-1-67~~
~~MT 1691~~	~~11-1-67~~
~~BR 5340~~	~~1-29-68~~
NY 909	5-18-71

Cancelled By

Report No.	Date
MT 1691	11-1-67
MT 1691	11-1-67
BR 5357	1-29-68
MT 1691	11-1-67
BR 5340	1-29-68
BR 5339	1-29-68
BR 5968	2-28-71

FILE

CONFIRMATION OF CABLE OR WIRE SENT THIS DATE. OUTSTANDINGS, IF ANY ATTACHED

NOTE: See accompanying letter for other matters and other relevant information. See other side for other pertinent data.

ABS GENOA OFFICE
ATTN MATT

Vessel's Name ~~TRADE DARING~~ Builder Kieler Howaldtswerke A.G. Hull No. 988 Class ✠ A.S.S. GL

PLAINTIFF'S EXHIBIT 42

American Bureau of Shipping

45 BROAD STREET, NEW YORK, N.Y. 10004

Report No. BR5968 — Bremen, Germany, March 1, 1971

M.V. "TRADE DARING" ex "BERTHA KNTZ"

THIS IS TO CERTIFY that the undersigned Surveyor to this Bureau did, at the request of the Owners Representative, attend on board the single screw motor driven Ore/Oil Carrier "TRADE DARING", of Monrovia, Liberia, Official Number 3505, on February 28, 1971, as the vessel lay afloat along side Frisia Oil Pier, Emden, Germany, in order to examine and report upon Outstandings of Montreal Report No. M02989, dated May 8, 1970, concerning alterations for reassignment of International Load Line Certificate. For further particulars see report as follows: -

1. Five (5) wooden entrance doors on poop deck found replaced by steel doors and the sill hight of companion way at frame 178/179 raised to 25".

Outstanding recommendation of Montreal Report No. M02989, Item No.5 is considered completed.

The undersigned recommends that this vessel be retained as classed with this Bureau.

E. Nachtigall

G. Nachtigall - Surveyor

FORM AB-143 PLAINTIFF'S EXHIBIT 42 Page 1

AMERICAN BUREAU OF SHIPPING

HULL CLASSIFICATION REPORT

~~S.S.~~ M.V. "BERTHA ENTZ"

BUILDER Kieler Howaldtswerke AG.

ADDRESS Kiel, Germany

OWNER Thomas Entz Tankerreederei m.b.H.

ADDRESS Rendsburg, Germany

DATE OF FIRST VISIT 7-21-54 **REPORT NUMBER** 55-HI-107

DATE OF LAST VISIT 2-5-55 **NUMBER OF VISITS** continuous

(leave blank)

REPORTS RECEIVED: **CERTIFICATE NUMBERS:**

HULL

FREEBOARD

EQUIPMENT

MACHINERY

BOILERS

ELECTRICAL

REFRIGERATION

PLAINTIFF'S EXHIBIT 42

TOTAL TANK CAPACITIES (TONS) P.& S.

Page 5

INDICATE FOR EACH WHETHER DOUBLE BOTTOM, DEEP OR CARGO TANK

TANK — STATE WHERE DRY OR COFFERDAM ↓	FRAME No. TO FRAME No.	LENGTH IN FEET	WATER BALLAST 35 CU. FT. PER TON	BUNKER FUEL OIL 37.5 CU. FT. PER TON	LIQUID CARGO TANKS 35 CU. FT PER TON	FRESH WATER 36 CU. FT. PER TON	
FORE PEAK	200-215		8122				
Cargo TANK No. 1¢	115-124	25'-6"	39194		39194		
Cargo TANK No. 2¢	106-115	25'-6"	39194		39194		
No. 1 P wing	160-178	57'-0"	47054		47054		
No. 1 S "			47054		47054		
No. 2 P "	148-160	34'-0"	34923		34923		
No. 2 S "			34923		34923		
No. 3 P "	136-148	34'-0"	35667		35667		
No. 3 S "			35667		35667		
No. 4 P "	124-136	34'-0"	35702		35702		
No. 4 S "			35702		35702		
No. 5 P "	106-124	57'-0"	41523		41523		
No. 5 S "			41523		41523		
No. 6 P "	94-106	34'-0"	35702		35702		
No. 6 S "			35702		35702		
No. 7 P "	82-94	34'-0"	35657		35657		
No. 7 S "			35657		35657		
No. 8 P "	70-82	34'-0"	35280		35280		
No. 8 S "			35280		35280		
No. 9 P "	52-70	57'-0"	49819		49819		
No. 9 S "			49819		49819		
FO tank No. P) diesel	47-51			7310			
FO tank No. S) diesel	44-51			9182			
FO settl. tank No. P) "	47-49			1346			Feed w. i. DB25/30
FO settl. tank No. S) "	"			1346		2754	
FO serv. tank No. P) "	47-52			706			Fresh coo i. DB25/30
FO serv. tank No. S) "	"			777		918	
FO deep tank No. P) "	179-199		19105	19105			Pot w. on peak D. 6/1
FO deep tank No. S) "	"		19564	19564		2154	
FO tank No. P) Boiler	40-47			4167			dto on main D. 1/16
FO DB No. S) "	31-45			2260		1413	
tank S) "				2260			I 20
AFTER PEAK	stem 11		8829			8829	aft peak
TOTALS			836662	59336 Diesel / 8687 Boiler	781042	16068	

DECKS AND BULKHEADS

STATE ↓ FOR →	SUPER-STRUCTURE DECK	FREEBOARD DECK	Boiler ~~& ENGINE~~ platform DECKS	Deep tanks ~~& CARGO~~ forepeak DECKS	STATE IF NOT CAULKED
IF WOOD, STEEL, SHEATHED OR BEAMS ONLY	-	steel	steel	steel	
No. OF WATERTIGHT TRANSVERSE BULKHEADS TERMINATING AT →	-	(7)	-	-	GIVE FRAME Nos. LOCATION 11; 47; 52; 106; 124; 178; 199
No. OF NON-WATERTIGHT TRANSVERSE BULKHEADS TERMINATING AT →	-	1			GIVE FRAME Nos. LOCATION Fr. 22
No. OF W. T. OR O. T. FULL DEPTH F. & A. BULKHEADS THROUGHOUT HOLDS TERMINATING AT →	-	(2)	-	1	wing tanks and deep tanks
No. OF NON-W.T. OR O.T. FULL DEPTH F. & A. BULKHEADS THROUGHOUT HOLDS TERMINATING AT →	-	-	-	-	

PLAINTIFF'S EXHIBIT 42

FIRE DETECTING AND EXTINGUISHING SYSTEMS

DETECTION

Is a fire detecting system installed?
No fire detection

What spaces are so protected?
Apparatus fitted.

What type of system is used?
Distinguish between "Electric Spot Thermostat" and "Wire Thermostat".

What spaces are fitted with electrical system?

What spaces with electrical pneumatic tube?

What spaces with smoke pipe?

Are all such systems arranged to indicate visibly and audibly?

Where are alarm stations located?

EXTINGUISHING

Is steam smothering fitted?
yes

If so in what spaces? Pump rooms and boiler room, cargo tanks, dry cargo hold, forcastle space, lamp and paint locker

What is boiler capacity? 16000 kg/h **Total heating surface** 560 m^2

What is diameter of branch pipes? Boiler room 50mm cargo tanks and pump rooms, others 32mm **How many branches in each hold?** one(1)

Is gas smothering fitted?
none

If so in what spaces?
not applicable

Give total number of (CO_2) bottles.
not applicable

Give number connected for instant discharge.
not applicable

Give size of bottles (capacity by weight contained).
not applicable

Are alarms required by the Rules fitted for steam or gas smothering systems in machinery spaces?
yes

Is a soda-acid or a foam system fitted?
yes

If so in what spaces?
engine and boiler room

Describe type and give capacity.
air foam, Minimax ca 5000 l/min at 5 kg/cm^2 sea water pressure.

Is an automatic sprinkler system fitted?
none

If so in what spaces?
not applicable

Describe type and state whether wet or dry.
not applicable

Is it provided with automatic discharge alarms?
no

Is the vessel provided with the proper number of approved portable extinguishers?
yes

Where are these located? Passage ways throughout accommodation, galley, steering engine roo main eng. and boiler room, pump room, passage & working tunnels, bridge decks, dry cargo hold, forcastle deck

Give their capacities.
6 CO_2 - 12 kg, 12 CO_2 - 6 kg, 45 air foam 10 liters.

No. and capacity of fire pumps 1 fire main P.75m3/h 60m **Where located?** Eng.room
1 spare P.(butterw. 100 m 3/h 12 - 6 kg/cm^2) relief valve fitted Eng.room
1 Indep.rotary pump, electr.drive by emerg.gen.40m3/h 50 m head aft pump room

PLAINTIFF'S EXHIBIT 42

FORM A. B. 120 50M 9-53

AMERICAN BUREAU OF SHIPPING

CERTIFICATE NO. KL 107 X

PORT OF Kiel, Germany

DATE 2 - 4 - 56

This is to Certify THA THE UNDERSIGNED SURVEYOR TO THIS BUREAU SURVEYED THE STEEL SINGLE SCREW ORE AND OIL CARRIER "BERTHA ENTZ" OF RENDSBURG, GERMANY, OFFICIAL NO. , DURING CONSTRUCTION AT THE YARD OF KIELER HOWALDTSWERKE AG, KIEL, GERMANY, AND DURING THE INSTALLATION OF MACHINERY AND EQUIPMENT, AND,

THAT WE ARE TRANSMITTING TO THE COMMITTEE OF THE AMERICAN BUREAU OF SHIPPING, NEW YORK, A REPORT RECOMMENDING THAT THE VESSEL IS ENTITLED TO BE CLASSED WITH THIS BUREAU, PENDING CONSIDERATION BY THE COMMITTEE OF OUR REPORTS AND THE ISSUING OF CLASSIFICATION CERTIFICATES, AND,

THAT WE CONSIDER THE VESSEL TO BE IN A GOOD AND SEAWORTHY CONDITION AND FIT TO CARRY ORE OR OIL IN BULK.

J.R. Tod

J.R. TOD - SURVEYOR.

PLAINTIFF'S EXHIBIT 42

American Bureau of Shipping

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1960

REPORT ON SAFETY EQUIPMENT FOR CARGO VESSELS

REPORT NO.	NAME OF VESSEL	PORT OF SURVEY
BR5970	M.V."TRADE DARING" ex "BERTHA ENTZ"	Bremen, Germany
CALL LETTERS	**OWNERS**	**PORT OF REGISTRY**
5 L T M	Navieras Ceorniras S.A., Panama, R.P.	Monrovia, Liberia
OFFICIAL NO.	**SURVEY REQUESTED BY**	**GROSS TONNAGE**
3509	Owners Agent	1551
HULL BUILT BY Howaldtswerke AG., Kiel, Germany	**HULL NO.** 988	**KEEL LAID** ~~1955~~ 1954
TANKER OR DRY CARGO VESSEL	Ore/Oil Carrier	

INVOICE NO. DATE ATTENDING: Mr.D.A. Argyriadis - Managing Director

TO:
Frisia Tendelsgesellschaft
GmbH.
297 Emden
Am Delft 4-5
Germany

Mr. G.N. Kyprios - Vessel's Master

CERTIFICATE DISTRIBUTION:
VESSEL
1 - OWNERS AGENTS
1 - ABS NEW YORK
COPY (IF ANY)
1 - ABS London
1 - ABS Hamburg

REPORT DISTRIBUTION:
1 - ABS NEW YORK
COPY (IF ANY)

Note:
This report may be used for Passenger, Whale Factory, or Fish Processing Vessels if accompanied by separate sheets covering all additional requirements.

FEES	FIRST VISIT February 27, 1971	LAST VISIT March 1, 1971
	NO. OF VISITS CHARGEABLE THREE (3)	
EXPENSES		
TOTAL		

PLAINTIFF'S EXHIBIT 42 33

American Bureau of Shipping

SURVEY OF SAFETY EQUIPMENT FOR CARGO VESSELS

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1960

A. AVAILABILITY OF LIFEBOATS AND LIFERAFTS (Chap. III, Reg. 4)

1. Is each lifeboat, liferaft, and article of buoyant apparatus capable of efficient and rapid launch even under unfavorable conditions of trim and 15° of list, arranged for rapid and orderly embarkation and so arranged to avoid interference with operation of other boats, rafts, and buoyant apparatus? yes

B. LIFEBOATS (Chap. III, Reg. 5, 6, 7, 8, 9, 10)

2. Have all lifeboats been approved by a recognized authority? yes

NOTE: Complete name plate data sheet at end of report.

3. Are all lifeboats in satisfactory condition? yes
4. Does actual carrying capacity for boats 24' or over not exceed that obtained by dividing cubic capacity by 10? yes
5. Are motor lifeboats equipped with diesel engines? yes
6. Were motor lifeboat engines started and operated satisfactorily? yes

C. QUANTITY AND CARRYING CAPACITY OF LIFEBOATS AND LIFERAFTS (Chap. III, Reg. 8, 22, 35, 37)

7. The total number of persons provided for by lifesaving appliances is ~~42~~ 58

Number of crew is 35

8. There are Two (2) lifeboats on port side capable of accommodating 58 persons.
9. There are Two (2) lifeboats on starboard side capable of accommodating 58 persons.
10. There are Two (2) motor lifeboats (included in the total lifeboats shown above in items 8 and 9).
11. There are No liferafts, for which approved launching devices are required, capable of accommodating — persons.
12. There are No liferafts, for which approved launching devices are not required, capable of accommodating — persons.
13. There are 22 lifebuoys. (Minimum 8 required.)
14. There are 25 lifejackets.

NOTES: 1. All motor lifeboats shall be diesel powered except for existing vessels. (See instructions.)
2. Mechanical launching devices required only for rigid liferafts exceeding 400 pounds. (See 126.)

D. LIFEBOAT EQUIPMENT (Chap. III, Reg. 11 and 12)

Each lifeboat is equipped as follows:

	BOAT NO. 1	2	3	4
Indicate boats motor (M) or mech. propelled (MP)		M	M	
15. Single banked complement of buoyant oars. (Half complement for motor or mech. propelled lifeboats.)	X	X	X	X
16. Two spare buoyant oars. (Not required for motor or mech. propelled lifeboat.)	X	X	X	X
17. One buoyant steering oar. (Not required for motor or mech. propelled lifeboat.)	X	X	X	X
18. 1½ sets of thole pins or crutches attached by lanyard or chain.		X	X	X
19. One boat hook (2 for motor lifeboats).	X	X	X	X
20. Two plugs for each plug hole attached by lanyard or chain, or, in lieu thereof, automatic valves.	X	X	X	X
21. One bailer.		X	X	X
22. Two sturdy buckets.	X	X	X	X
23. An attached rudder with tiller.	X	X	X	X
24. One hatchet at each end of the lifeboat.	X	X	X	X
25. One lamp with 12 hour supply of oil.		X	X	X
26. Two boxes of matches in watertight container.	X	X	X	X
27. Mast, or masts, with galvanized wire stays and orange sails (not required for motor or mech. propelled boat.)	X	—	—	X
28. An efficient luminized or illuminated compass in binnacle.	X	X	X	X
29. Lifeline becketed around outside of the lifeboat.	X	X	X	X
30. One sea anchor.	X	X	X	X
31. Two painters, one firmly secured to stem, the other secured to the forward end of the lifeboat and provided with strap and toggle for quick release.	X	X	X	X
32. One gallon of fish, animal, or vegetable oil in a vessel constructed for easy distribution of oil on water and arranged for attachment to sea anchor.	X	X	X	X
33. A food ration (in airtight receptacles stowed in watertight container) as determined by the Administration for each person the lifeboat is certified to carry. (See instructions.)	X	X	X	X
34. Watertight containers with 3 quarts of fresh water per person, or, 2 quarts if desalting apparatus capable of providing one quart of drinking water per person is installed.	X	X	X	X

PLAINTIFF'S EXHIBIT 42

	BOAT NO 1	2	3	4
35. One rustproof dipper with lanyard.	X	X	X	X
36. One rustproof graduated drinking vessel.	X	X	X	X
37. Four high-altitude bright red parachute signals. State standard or specification to which signals were made. "Kurbi" Berckholtz K[illegible], SBC, Parachute Distress Signal	X	X	X	X
38. Six bright red hand flares. State standard or specification to which flares were made. Berckholtz Class IV, U [illegible] Red Hand Flare, SBC	X	X	X	X
39. Two daylight-use buoyant smoke signals of orange colored smoke. State standard or specification to which signals were made. B 54 Berckholtz, SBC	X	X	X	X
40. Bilge keels or keel rails together with grab lines secured gunwale to gunwale under keel.	X	X	X	X
41. Approved first aid outfit in watertight case.	X	X	X	X
42. One watertight electric torch suitable for Morse Code signaling with one spare set of batteries and one spare bulb in waterproof container.	X	X	X	X
43. One daylight signal mirror.	X	X	X	X
44. One jack knife, with can opener, secured to boat by lanyard.	X	X	X	X
45. Two light buoyant heaving lines.	X	X	X	X
46. One efficient manual pump.	X	X	X	X
47. Suitable locker for small equipment stowage.	X	X	X	X
48. One whistle or equivalent sound signal.	X	X	X	X
49. One set of fishing tackle.	X	X	X	X
50. One approved cover of highly visible color capable of protecting occupants against injury by exposure	X	X	X	X
51. One copy of the illustrated table of prescribed life saving signals.	X	X	X	X
52. Suitable provision for climbing aboard boat from the water.	X	X	X	X
53. Portable fire extinguisher capable of discharging froth or other medium suitable for oil fires. (Required for motor lifeboats only.)	-	X	X	-
54. Items of equipment not in lockers, except for boat hooks, are suitably secured to lifeboat.	X	X	X	X

E. LIFERAFTS — INFLATABLE (Chap. III, Reg. 15)

55. Have inflatable liferafts been approved by a recognized authority?

NOTE: Complete name plate data sheet at end of report.

56. Are liferafts stowed in a readily accessible position?

F. LIFERAFTS — RIGID (Chap. III, Reg. 16)

57. Have rigid liferafts been approved by a recognized authority?

NOTE: Complete name plate data sheet at end of report.

58. Are liferafts (a) stowed in a readily accessible position?

(b) in satisfactory condition?

59. Is total weight of liferaft and equipment 400 pounds or less?

(a) If negative answer, see Items 90, 91 and 126.

G. LIFERAFT EQUIPMENT (Chap. III, Reg. 16 and 17)

Each liferaft is equipped as follows:	RAFT NO 1	2	3	4
60. One buoyant rescue quoit (ring) attached to 100 feet of buoyant line.				
61. One knife and one bailer (for rafts carrying less than 13 persons). Two knives and two bailers (for rafts carrying more than 12 persons).				
62. Two sponges.				
63. Two sea anchors (one spare and one permanently attached).				
64. Two paddles.				
65. One outfit for repairing punctures in buoyancy compartments.				
66. One topping up pump or bellows (for inflatable liferafts only).				
67. Three can openers.				
68. One approved first aid outfit in waterproof case.				
69. One rustproof graduated drinking vessel.				
70. One waterproof electric torch suitable for signaling in Morse Code with one spare set of batteries and one spare bulb in a waterproof container.				
71. One daylight signaling mirror.				
72. One signaling whistle.				
73. Two high altitude, bright red parachute signals. State standard or specification to which signals were made.				

PLAINTIFF'S EXHIBIT 42

	RAFT NO. 1	2	3	4
74. Six bright red hand flares. State standard or specification to which made.				
75. One set of fishing tackle.				
76. Rations as per item 33.				
77. Watertight containers with 3 pints of fresh water per person, or, 2 pints if desalting apparatus capable of providing one pint of drinking water per person is installed.				
78. Six anti-seasickness tablets for each occupant.				
79. Instructions on how to survive in a liferaft.				
80. One copy of the illustrated table of prescribed life saving signals.				
81. One attached painter.				
82. Lifeline becketed around outside of liferaft.				
83. Lifeline fitted around inside of liferaft.				
84. One buoyant battery type light attached by lanyard. (For rigid liferafts only.)				

H. PORTABLE RADIO APPARATUS (Chap. III, Reg. 13; Chap. IV, Reg. 13)

85. Is a portable radio apparatus provided in a suitable place for efficient transfer to a lifeboat in the event of emergency? yes
State location (for tankers over 3000 G.T. see instructions) Radio Room –

86. Is this portable radio apparatus:
a. A transmitter, receiver, aerial, and source of power in container? yes
b. Designed for operation by unskilled person? yes
c. Readily portable, compact, lightweight, watertight, capable of floating in the sea, and capable of being dropped into the sea without damage? yes

87. State manufacturer of radio apparatus Hagenuk Kiel, Type SM108KD2 #1286, SBG –
Give model number, type, standard or code to which radio was made.

I. EMBARKATION ARRANGEMENTS (Chap. III, Reg. 18, 19; Chap. II, Reg. 26)

88. Has vessel's master confirmed that the vessel's crew have been trained in the launching and use of liferafts (if fitted)? ~~yes~~
89. Is there a suitable ladder at each set of davits which affords access to boats or rafts when waterborne? yes
90. If vessel less than 5000 G.T., is lighting, including at least 3 hours from emergency source, provided for illumination of:
a. All lifeboat and liferaft stowage positions? –
b. Water into which lifeboats and rigid liferafts over 400 pounds are launched? –
c. All alleyways, stairways, and exits for access to launching station and stowage positions of lifeboats and liferafts? –
91. If vessel is 5000 G.T. or over, is lighting, including at least 6 hours from emergency source, provided for as per item 90 (a), (b), and (c) above? yes
92. Are provisions made to prevent discharge of water into lifeboats and liferafts? yes
93. Are there suitable arrangements for warning passengers and crew that vessel is about to be abandoned? yes

J. MARKING OF LIFEBOATS AND LIFERAFTS (Chap. III, Reg. 20)

94. Are the dimensions of each lifeboat and actual carrying capacity clearly and permanently marked thereon? yes
95. Is the name and port of registry of the vessel clearly marked on each side of the lifeboat's bow? yes
96. Is each liferaft clearly marked with the number of persons it is permitted to carry? –
97. Is the name and port of registry of the vessel clearly marked on each rigid liferaft? –
98. Is the serial number and name of manufacturer clearly marked on each inflatable liferaft? –
99. Is each inflatable liferaft container marked with the number of persons the enclosed liferaft is permitted to carry? –

K. LIFEBUOYS (Chap. III, Reg. 21, 37)

100. Is each lifebuoy made of solid cork or other equivalent material? yes
NOTE "Lifebuoys filled with rushes, cork shavings, granulated cork, or any other loose granulated material or whose buoyancy depends upon air compartments which require to be inflated, are prohibited."

101. Are there at least 8 approved lifebuoys supplied? yes
102. Have lifebuoys been approved by a recognized authority? yes
a. State approval authority, type or model number SBG, Model No. unknown

103. Is each lifebuoy a highly visible color and marked with name and port of registry of vessel in block letters? yes

PLAINTIFF'S EXHIBIT 42

104. Is each lifebuoy:
   a. In satisfactory condition? yes
   b. Fitted with beckets? yes
   c. Readily accessible, in no way permanently secured, and capable of being cast loose rapidly? yes
105. Is there at least one lifebuoy on each side of the vessel fitted with not less than 15 fathoms of buoyant line? yes
106. Is at least one-half of the total number of lifebuoys fitted with efficient self-igniting lights? yes
   a. If vessel is a tanker, are self-igniting lights of the electric battery type? yes
107. Are two of the lifebuoys which are provided with self-igniting lights also provided with self-activating smoke signals capable of producing smoke of highly visible color for at least 15 minutes and located so as to be quickly released from the navigating bridge? yes
108. Are self-igniting lights:
   a. Approved by a recognized authority? yes
   b. Stowed near lifebuoys to which they belong with necessary means of attachment? yes

L. LIFEJACKETS (Chap. III, Reg. 22)

109. Is there at least one approved lifejacket with whistle attached for each person on board? yes
110. If vessel is a tanker, are lifejackets not dependent upon inflation? yes
111. Are all lifejackets in satisfactory condition? yes
   a. State material used in construction of lifejackets. Styropor
   b. State standard, code, or specification to which lifejackets were made. S.B.G.
112. Are all lifejackets stowed in a readily accessible plainly marked location? yes

M. LINE-THROWING APPARATUS (Chap. III, Reg. 23)

113. Is vessel supplied with a line-throwing apparatus? yes
   a. State manufacturer, model, number, type and standard or specification to which made.
   Comet Apparatebau Bremerhaven, S.B.G., No. 4000
114. Is the appliance capable of carrying a line not less than 250 yards with reasonable accuracy? yes
115. Are there not less than 4 projectiles and 4 lines supplied with the appliance? yes

N. SHIPS' DISTRESS SIGNALS (Chap. III, Reg. 24)

116. Is the vessel supplied with day and night distress signals, including at least 12 parachute signals, capable of giving a bright red light at high altitude? yes
   a. List distress signals supplied, manufacturer, and type or specification to which each was made.
   Pistol Parachute, Perckholtz S 27, SBG
   Pistol Red Star Signal S 28, Perckholtz, SBG

O. MUSTER LIST AND EMERGENCY PROCEDURE (Chap. III, Reg. 25, 26)

117. Is a muster list and emergency procedure maintained and posted in accordance with Chapter III, Regulation 25? yes
118. Are arrangements made for practice musters and drills, including recording of same in log book, as specified in Chapter III, Regulation 26? yes

P. NUMBER AND CAPACITY OF LIFEBOATS AND LIFERAFTS (Chap. III, Reg. 8 and 35)

119. For all cargo vessels: (excluding tankers of 1600 gross tons or over and whale factory vessels):
   a. Are lifeboats on each side of the vessel of such aggregate capacity as to accommodate all persons on board? not applicable
   b. Is at least one motor lifeboat fitted if G.T. is 1600 or over?
   c. In addition to the lifeboats, are liferafts provided of sufficient capacity to accommodate half of the persons on board?
120. If the vessel is a tanker of 1600 gross tons or over:
   a. Are lifeboats on each side of the vessel of such aggregate capacity as to accommodate all persons on board? ~~yes~~
   b. Included in above, is there at least one motor lifeboat on each side? ~~yes~~
121. If the vessel is a tanker of 3000 gross tons or over:
   a. Are lifeboats on each side of the vessel of such aggregate capacity as to accommodate all persons on board? yes
   b. Are there at least four lifeboats, including at least one motor lifeboat on each side? yes
   c. Are two of the above lifeboats carried amidship and two aft? yes
   d. If the answer to (c) is negative because of no amidship superstructure being fitted, are four lifeboats (including two motor lifeboats) carried aft? -
   e. If special approval for the carriage of one lifeboat on each side of the vessel aft has been granted, are these lifeboats:
      1. 26 feet or less in length?
      2. Stowed as far forward as practicable but at least so far forward that the aft end of the lifeboat is 1½ times the lifeboat length forward of the ship's propeller? not applicable
      3. Stowed as near sea level as is safe and practical?
      4. Both motor lifeboats?
      5. Supplemented by liferafts sufficient to accommodate at least half of the total persons on board?

PLAINTIFF'S EXHIBIT 42

Q. DAVITS AND LAUNCHING ARRANGEMENTS (Chap. III, Reg. 36)

122. Are lifeboats and liferafts stowed in a safe seamanlike manner? yes
123. Is every lifeboat attached to a separate set of davits? yes
124. Are lifeboats and liferafts stowed to ensure safe launching with no lifeboats or rigid liferafts over 400 pounds stowed in bows? yes
125. Are davits of approved design and suitably located? yes
126. Are rigid liferafts exceeding 400 pounds total weight equipped with mechanical means of launching raft, or, capable of being launched from both sides of the ship? -
127. For tankers of 1600 gross tons or over, are all davits of the gravity type? yes
128. For vessels other than above: yes
    a. Are davits gravity type? -
    b. If luffing davits are fitted, does weight of boat in turning out condition not exceed 2¼ tons (2300 KG)?
129. Are davits, falls, blocks, and all other gear of sufficient strength to permit lowering boats with full complement of persons and equipment with vessel listed 15° and 10° trim? yes
130. Are skates or other suitable means provided to facilitate launching boats against a list of 15°? yes
131. Are means provided for bringing the boats against the ship's side and holding them for safe embarkation? yes
132. Are all boats served by falls of wire rope or other approved material, sufficient in length to reach the water with ship at lightest draft and listed 15° either way? yes
    a. State material of falls. Wire Rope
    b. State winch manufacturer and type. Roland Davit Brg, W 64
133. Are there at least two lifelines fitted to each davit span of sufficient length to reach water with ship at lightest draft and listed 15° either way? yes
134. Is each lower block fitted with a disengaging ring, long link, or disengaging gear? yes
    a. If disengaging gear is fitted, give manufacturer, model, type, and code or specification to which made. Manufacturer unknown, Lever type
135. If mechanically powered appliances are fitted for recovery of boats, is efficient hand gear also provided? yes
136. Where davits are recovered by the action of the falls by power, are limit switches or other safety devices installed to prevent over-stressing of falls or davits due to coming up against stops? -
137. Are falls ready for service and arranged to insure lifeboats being swung clear of davits and speedily detached from lifeboat? yes

R. FIRE DETECTION AND EXTINCTION EQUIPMENT (Chap. II, Reg. 56, 57, 58, 60, 62, 63, 65 and 66)

1. FIRE PUMPS (Reg. 56b, 65b)

138. If the vessel is over 1000 but under 2000 G.T., are two independently driven power pumps installed and so located that a fire in any one compartment would not put all pumps out of action?
    (a) If answer is negative, state alternative means for providing water for fire fighting.

139. If vessel is 2000 gross tons or over, and a fire in any one compartment could put all pumps out of action, is there, in addition to the required two independently driven power pumps, a fixed emergency independently driven fire pump capable of supplying two jets of water? yes
    (a) For new vessels an affirmative answer is required.
    (b) For existing vessels if answer is negative, give details of other protection arrangements provided under "REMARKS".

140. List the following data.

No.*	Location	Name Plate Data (include capacity)	Type of Prime Mover
1	Emerg, Diesel Gen. R.	40m³/h Head: 60 m	Electric Driven
1	Lower Engine Room	75 m³/h Head: 60 m	Electric Driven
1	Lower Engine Room	100 m³/h Head: 125 m	Steam Driven
1	Fwd. Pump Room	100 m³/h Head: 125 m	Steam Driven

*NOTE Sanitary, bilge, ballast, or general service pumps may be accepted as fire pumps if not normally used for pumping oil and that, if subject to occasional duty for transfer or pumping of fuel oil, suitable changeover arrangements are fitted. Designate which of the above pumps is the emergency fire pump.

141. Is the total capacity of the fire pumps at the required pressure (excluding the emergency fire pump) equal to at least 4/3 of the capacity of one bilge pump required for a passenger vessel (Reg. 18) but need not exceed 180 tons per hour (785.6 U.S. gallons per minute)? yes

NOTE Required bilge pump capacity in U.S. gpm (tons/hr.) can be determined by multiplying 16.4 (3.7) times the square of the required bilge main inside diameter obtained from formula in ABS Rules, Section 36.

PLAINTIFF'S EXHIBIT 42

142. Does each of the required fire pumps (excluding emergency fire pump) have:
(a) Capacity of not less than 80% of the total required capacity divided by the number of pumps? yes
(b) Capability of delivering at least the two required jets of water? yes
(c) Capability of supplying the fire main system under the required conditions? yes

143. Are relief valves provided to prevent excessive pressure in any part of the firemain system if pumps are capable of developing pressures exceeding the design pressure of the piping, hydrants, and hoses? yes

144. Is the diameter of the fire main and water service piping sufficient for maximum required discharge from two fire pumps (operating simultaneously)? yes

NOTE: Maximum discharge need not exceed 140 tons per hour (611 U.S. gallons per minute).

145. With two pumps operating simultaneously delivering the specified quantity of water (Item 144) through the required nozzles (Item 153), through adjacent hydrants, is the pressure:
(a) At least 40 psi (2.8 kg/cm²) for vessels of 6000 G.T. or over? yes
(b) At least 37 psi (2.6 kg/cm²) for vessels from 1000 to 6000 G.T.? –

II. HYDRANTS (Chap. II, Reg. 56(d)(e), Reg. 65(c)

146. Give location of hydrants:

Number	Location
18	2½" Main Deck, Fwd. and aft
4	2½" Outside of Midship House
6	2½" Aft Superstructure 2nd Deck
4	2½" PoopDeck
12	1½" Aft Accommodation
2	1½" Boiler Room
4	2½" Engine Room

147. Is the number and position of hydrants such that at least two jets of water, not from the same hydrant, one of which shall be from a single length of hose, may reach any part of the vessel normally accessible to passengers or crew while ship is being navigated? yes

148. Is the number and position of hydrants such that at least two jets of water can reach any part of any cargo space when empty? yes

149. Do pipes and hydrants comply with the following:
(a) Are materials of fire mains such as not to be rendered ineffective by heat unless adequately protected? yes
(b) Are pipes and hydrants so placed that fire hoses may be easily coupled to them? yes
(c) If there is not one hose and nozzle for each hydrant, is there complete interchangeability of hose couplings and nozzles? yes
(d) Where deck cargo may be carried, are hydrants so located that they are always readily accessible and pipes arranged as far as practicable to avoid risk of damage by such cargo? –
(e) Are cocks or valves fitted in such positions on the pipes that any of the fire hoses may be removed while the fire pumps are at work? yes

III. FIRE HOSES (Chap. II, Reg. 56(f)(g)(h), Reg. 65(c))

150. List the maker of each hose, length, diameter, material and agency that approved the hose.

No.	Length	Dia.	Material	Mfgr.	Approved by
36	25 m	2½"	Rubbercanvas	unknown	S.B.G.
14	25 m	1½"	" "	"	S.B.G.

NOTE: For vessels of 1000 gross tons or over, one hose, complete with coupling and nozzle, must be supplied for each 100 feet of ship length plus one spare with a minimum of five (excluding hoses in engine and boiler rooms).

151. Are all hoses sufficient in length to project a jet of water to any space in which they may be required to be used? yes

152. Is each fire hose:
(a) In satisfactory condition? yes
(b) Provided with nozzle and necessary couplings? yes
(c) Together with any necessary fittings and tools, kept ready for use in a conspicuous position near the water service hydrants or connections? yes

PLAINTIFF'S EXHIBIT 42

153. Subject to compliance with Item 142, are nozzles:
(a) Between ½" (12 mm) and ¾" (20 mm) inside diameter? yes
(b) For machinery spaces and exterior locations of such size as to obtain maximum discharge possible from two jets at the required pressure (Item 145) from the smallest pump? yes
(c) For all hydrants in machinery spaces containing oil fired boilers or internal combustion type propelling machinery fitted with hoses having (in addition to nozzles in 153(a)) nozzles suitable for spraying water on oil, or alternatively dual purpose nozzles? yes

154. Is an International Shore Connection, together with the required gasket, four bolts, and eight washers, provided as required by Chapter II, Regulation 56(h)? yes

155. Are facilities provided for use of the International Shore Connection on either side of the ship? yes

IV. FIRE EXTINGUISHERS (Chap. II, Reg. 57, 65 e)

a) **General** (List extinguishers under "Remarks")

NOTE: For vessels of 1000 G.T. and over a minimum of 5 approved portable fire extinguishers is required in accommodation and service spaces.

156. Are all portable fluid extinguishers of at least 2½ U.S. gallons (9 liters) but not more than 3½ U.S. gallons (13½ liters) capacity or equivalent? (See instructions). yes

157. Is a spare charge or refill provided for each portable extinguisher that can be refilled at sea or as specified by the Administration? (See instructions). yes

158. Is at least one of the portable fire extinguishers intended for use in any space stowed near the entrance to that space? yes

159. Were all fire extinguishers (portable and non-portable) examined and tested? (See instructions). yes

160. Is the extinguishing medium of all portable fire extinguishers of an approved type? yes

NOTE: A medium which in itself, or in use, gives off gases harmful to persons are not permitted except that 1 quart (1.136 litres) carbon tetrachloride, or similar media, may be permitted in radio rooms or at switchboards but shall not be included in the number of approved extinguishers required.

b) **Machinery spaces of vessels of 1000 gross tons or over where main or auxiliary oil fired boilers, fuel oil units, or settling tanks are located.** (Chapter II, Reg. 65(g))

161. Give amount of sand, soda-impregnated sawdust, or other approved dry material provided in a receptacle in each firing space. 20 cu.ft.

162. If no sand or other approved dry material is provided, is an approved portable fire extinguisher supplied as an alternative? -

(a) Give size and medium

163. Are portable fire extinguishers of a type suitable for extinguishing oil fires? yes

(a) State medium Dry Powder Or Foam

Boiler Rooms

164. Are there at least two portable extinguishers in each firing space of each boiler room?

List:

No.	Location	Total Capacity	Medium
4	Boiler Room 2 each port and starboard	6 kg each	Dry Powder

165 Are there at least two portable extinguishers in each space in which a part of the fuel oil installation is situated other than those covered in Item 164. yes
List extinguishers in each space:

No.	Location	Total Capacity	Medium
2	Upper Boiler Room	6 kg each	Dry Powder

166. In addition to Items 164 and 165, is there at least one similar type extinguisher of capacity equal to 2½ U.S. gallons (9 liters) for each burner for any one boiler room? yes

NOTE: Total capacity of additional extinguisher or extinguishers need not exceed 12 U.S. gallons (45 liters) (or equivalent) for any one boiler room.

(a) Give actual installation

No. of Burners Per Fire Space	No. and Total Capacity of Extinguishers	Location	Medium
6	6 kg each, 6pcs	Boiler Room	Dry Powder

PLAINTIFF'S EXHIBIT 42

c). **Machinery spaces of vessels of 1000 gross tons or over where internal combustion types engines are used for (1) main propulsion machinery or (2) auxiliary purposes with a total power not less than 1000 BHP.**

167. Is there one froth (foam) extinguisher of at least 12 U.S. Gallons (45 liters) or equivalent in each engine space? yes

(a) Give details:

Location	Capacity	Medium
Upper Engine Room	60 kg	Foam

168. Are there at least two, but not necessarily more than six, portable froth (foam) extinguishers dispersed in readily accessible locations about each engine space?

NOTE: One extinguisher is required for each 1000 BHP or fraction thereof.

(a) Give details:

No.	Location	Capacity
4	Upper Engine Room	6 kg each
1	Mainswitchboard	6 kg
1	Transformer Station	6 kg
1	Workshop	6 kg
2	Lower Engine Room	6 kg each
1	Filter Station	6 kg

169. Where an oil fired boiler is fitted, do all the requirements of R IV (b) comply?

(Refer to Items 161 to 166 inclusive.)

d) **Machinery spaces containing steam turbines and not requiring any fixed fire extinguishing arrangements.**

170. In such spaces which are separated from boiler rooms by watertight bulkheads, give details of fire extinguishing arrangements.

No.	Location	Capacity	Medium

V. MISCELLANEOUS (Chap. II, Reg. 63, 65(j), 68(b)(ii))

a) **Fireman's Outfit** (Chap. II, Reg. 63)

171. Is at least one breathing apparatus provided in accordance with either 172 or 173? yes

172. If an approved smoke helmet or smoke mask is provided, has it:

(a) A suitable air pump? yes

(b) Sufficient length of air hose (not exceeding 120 feet or 36 meters) to reach from open deck, well clear of hatch or doorway, to any part of the holds or machinery spaces? yes

173. If an approved self-contained breathing apparatus is provided, for what period is it designed to function? - min.

Manufacturer	Type (See 172 or 173 above)	Standard or Spec. to which made
Dräger Lübeck	DA 34/1600	S.B.G.

174. Is each breathing apparatus equipped with a fireproof lifeline of sufficient length and strength attached to its belt or harness by a snaphook? yes

175. Is an approved electric safety lamp (flashlight) having a minimum burning period of 3 hours provided? yes

176. Is an approved fire axe provided? yes

b) **Escape Arrangements** (Chap. II, Reg. 68(b) (ii))

177. Are two means of escape provided for each engine room, shaft tunnel, and boiler room as required by Chapter II, Regulation 68(b) (ii)? yes

VI. FIRE SMOTHERING APPARATUS (Chap. II, Reg. 58, 60, 62, 65, 69, 70)

a) **General**

178. Are means provided, operable from outside the space concerned, in case of fire, for stopping ventilation fans serving machinery and cargo spaces, closing all doorways, ventilators, annular spaces around funnels, and other openings to such spaces? yes

179. Are means provided for stopping machinery driving forced or induced draft fans, fuel oil transfer pumps, fuel oil unit pumps, and similar fuel oil pumps with remote controls outside the space? yes

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180. Are oil fuel suctions from storage, settling, or daily service tanks located above the doublebottom fitted with cocks or valves capable of being closed from outside the space in which they are located? yes

181. Where oil fuel deep tanks are located in any shaft or pipe tunnel, are valves fitted on tanks? yes

NOTE: Control in the event of fire may be effected by means of an additional valve on the pipe line or lines outside the tunnel or tunnels.

182. Are fire control plans or booklets provided in compliance with Chapter II, Reg. 70? yes

183. Are control valves or cocks for fixed fire extinguishing systems easily accessible and so located as not to be readily cut off from use by fire? yes

184. Is a means provided to prevent inadvertent admission of gas or steam to any compartment? not applicable

(a) State means provided

185. Where cargo spaces fitted with smothering for fire protection are used as passenger spaces, is the smothering connection provided with a blank for use during service as a passenger space? not applicable

186. Is a means provided for giving audible warning of the release of fire smothering gas into any working space? not applicable

187. Are control valves or cocks for fire smothering ~~gas or steam~~ Foam marked to indicate clearly the compartments to which the pipes are led? yes

(a) State location of valves Emergency Diesel Generator Room

188. Is piping for fire smothering gas or steam arranged to provide effective distribution of fire extinguishing medium? yes

b) **Cargo Spaces** (Chap. II, Reg. 65(f))

Not required for vessels of less than 2000 gross tons.

189. What type of fixed fire smothering system is provided in cargo spaces?

Steam Smothering

190. If answer to above is "NONE" for cargo holds of any vessel other than the tanks of a tanker, one of the following must be answered affirmatively:

(a) Are cargo holds provided with steel hatch covers and effective means of closing all ventilators and other openings leading to the holds? not applicable

(b) Is the vessel constructed and intended solely for carrying such cargoes as ore, coal or grain? ore/oil carrier

191. State the gross volume of the largest cargo compartment capable of being sealed. 17,795 cu. ft. (cu. m.)

NOTE: For this purpose tonnage openings in shelter deck bulkheads are considered sealed.

192. Where carbon dioxide is the extinguishing medium, state the total weight provided for the cargo system. not applicable pounds (kg)

(a) Is this weight of gas sufficient to provide a minimum volume of free gas equal to 30% of the cargo compartment volume noted above?

NOTE: For this purpose 1 pound of CO_2 equals 9 cu. ft. of free gas.
(1 kg of CO_2 equals 0.56 cu. m. of free gas.)

(b) Give number of bottles fitted and their weight

(c) State the number and location of nozzles in each cargo compartment

(d) State number and size of pipes of branch lines for each hold and space protected by gas smothering

193. If a generator producing inert gas provides the smothering gas for cargo spaces, is it capable of producing hourly a volume of free gas equal to 25% of the gross volume of the largest compartment for a 72 hour period?

State manufacturer's name, type or model, and approval agency

(a) Also complete information required in Item 192(c) and (d).

194. Where steam is the extinguishing medium:

(a) Does the boiler (or boilers) available for supplying steam have an evaporation of at least one pound per hour for each 12 cubic feet (1 kg for each 0.75 cu. m.) of cargo compartment noted in Item 191? yes

(b) Is steam immediately available and not dependent upon lighting boilers? yes

(c) Can steam be supplied continuously until the end of the voyage in required quantity (a) in addition to steam necessary for normal requirements including propulsion? yes

(d) Is provision made for extra boiler feed water to meet above requirement? yes

(e) State steam pressure available. 150 psi ~~kg/cm²~~

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(f) Are pipes led well down into cargo spaces and as remote from shell as practicable? yes

(1) State distance from deck or tanktop to nozzle or pipe ends 6" ~~feet~~

(g) State number and location of distribution centers. No distribution centers, valve at each hatch cover

(1) Was system tested for operation? yes

(h) Give number and size of pipes provided for each cargo space, along with cubic volume of each space.

NOTE: Large holds must have at least two pipes, one forward and one aft.

	Space	Pipes No.	Pipes Size	Cubic Volume
18	Wing Tk	1 each	1½"	923.8 to 1413.6 m³
2	Center Tanks	1 each	1½"	1115.7 m³

(i) For vessels carrying explosives, steam shall not be used for fire smothering purposes in any compartment carrying explosives.

NOTE: For definition of "compartment" see Chapter II, Regulation 65(f), (iv), (1).

If explosives are carried, are requirements for smoke or fire detection systems provided as specified in Chapter II, Regulation 65(f), (iv)? -

195. If froth (foam) is the extinguishing medium used on tankers in lieu of gas or steam smothering, discharging internally or externally to tanks, state quantity of froth (foam) provided 2650 liters / min.

(a) Is this sufficient to cover the area of the largest cargo tank to a depth of 6" (15 cm)? yes

(b) State calculated time required to complete (a) above. - min.

(c) Give number and size of pipes for each tank or space protected:

Space	Pipes No.	Pipes Size	Space	Pipes No.	Pipes Size
	Externally				

c) **Machinery Spaces** — Applicable only to cargo vessels of 1000 gross tons or over in which main or auxiliary oil fired boilers are fitted, internal combustion machinery for main propulsion or auxiliary purposes of 1000 total BHP or more is fitted, or in spaces where oil fuel units or settling tanks are located. C

196. Which one of the following fixed fire extinguishing installations is fitted?

(a) Pressure water spraying system (Reg. 62).

(b) Fire smothering gas installation (Reg. 58).

(c) Fixed froth (foam) installation (Reg. 60).

NOTE: In each case if the engine and boiler rooms are not entirely separate, or if fuel oil can drain from the boiler room into the engine room bilges, the combined engine and boiler rooms shall be considered as one compartment.

197. State the larger of the following volumes:

(a) 40% of the gross volume of the largest space (the volume to include the casing up to the level at which the horizontal area of the casing is 40% or less of that of the space concerned). cu. ft. (cu. m.)

(b) 35% of the entire volume of the largest space including the casing Information not avaible. cu. ft. (cu. m.)

NOTE 1: If vessel is less than 2000 gross tons, reduce (a) to 35% and (b) to 30%.

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NOTE 2: If two or more spaces containing boilers or internal combustion type machinery are not entirely separate, they shall be considered as one compartment.

NOTE 3: If carbon dioxide is used as an extinguishing medium for both cargo spaces and for spaces containing boilers or internal combustion type machinery, the quantity of gas need not be more than the maximum required either for the largest cargo compartment or machinery space.

198. Where carbon dioxide is the extinguishing medium for boiler spaces, spaces where fuel oil units or settling tanks are situated, or internal combustion machinery of over 1000 BHP is located, does the system provide 1 pound of carbon dioxide for each 9 cu. ft. (1 kg for each 0.56 cu. m.) based on the volume in Item 197?

(a) Give number and location of nozzles (or pipe outlets) provided

(b) Can at least 85% of the required gas be discharged into the space within two minutes (according to calculation)?

(c) Give number of bottles and their weight

199. Where fixed froth (foam) extinguishing system is provided, what is the largest area over which fuel oil is liable to spread in the event of accidental leakage? Information not avaible. sq. ft. (sq. m.)

(a) Is the quantity of froth (foam) available sufficient to cover this area to a depth of 6" (15 cm) (according to calculation)? yes

(b) Are fixed or mobile arrangements by pressure water or froth spraying provided to fight fire above the floor plates if required? (See instructions.)

(c) If gutter bars are used, give their height and location.
Below Floor Plates

(d) Give number and location of nozzles.
6 pcs Engine Room
2 pcs Boiler Room

(e) Give location (or locations) of controls.
Emergency Diesel Generator Room

(f) State calculated time required to discharge to a depth of 6" (15 cm) over the largest area over which fuel oil is liable to spread. unknown min.

(g) Attach to this report a brief description of the type of froth (foam) system employed, including (where applicable) source of power and water supply and arrangements for maintaining operability when main source of power is cut off.

200. Where fixed pressure water-spraying systems are provided for boiler rooms with oil fired boilers and engine rooms with internal combustion type machinery:

(a) Are spraying nozzles of an approved type?

(b) Is the number and arrangement of nozzles such as to ensure effective distribution of water in the spaces protected?

(c) Are nozzles fitted above the bilges, tank tops, and other areas over which fuel oil is liable to spread and also above other main fire hazards in the boiler and engine rooms?

(d) Give number and location of spraying nozzles.

(e) Give location (or locations) of controls.

(f) Is the system kept fully charged at the necessary pressure?

(1) Give pressure of system psi (kg/cm^2).

(g) Is the pump supplying water for the system automatically activated by a drop in pressure in the system?

(h) Is the pump capable of simultaneously supplying the necessary pressure at all sections of the system in any one compartment to be protected?

(i) Are pump and its controls installed outside spaces to be protected in such manner that fire in spaces protected cannot put system out of action?

(j) What provisions are made to prevent nozzles becoming clogged by impurities in the water or corrosion of piping, nozzles, valves, and pump?

201. Are the fire extinguishing appliances in good order and available for immediate use? yes

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VII. INCLINING EXPERIMENT

202. In the case of a new vessel, was an inclining experiment performed, elements of stability determined, and the master of the vessel supplied with the relative information?

(Copy of information furnished to the master to be forwarded with this report.)

(a) If inclining experiment was not performed, identify the sister ship from whose inclining experiment and stability, the master's data was obtained.

(b) If alterations have been made which materially affect the stability, has amended stability information been provided as required?

(c) If the vessel is especially designed for carriage of liquids or ore in bulk and not inclined, has the omission of inclining experiment been approved?

S. NAVIGATION LIGHTS, AND SHAPES, MEANS OF MAKING SOUND SIGNALS AND DISTRESS SIGNALS, AND INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA

203. State whether vessel is in compliance with the foregoing regulations.

204. State whether the following are provided:

Sidelights	yes
Masthead lights	yes
Anchor lights and shapes	yes
Not under command lights and shapes	yes
Stern light	yes
Signaling lamps	yes
Direction finding apparatus	yes
Pilot ladder	yes
Distress signals	yes
Sound signals	yes
Whistle	yes
Fog horn	yes
Bell	yes

REMARKS

List particulars of special features including intended voyage limitations, special rulings applicable to deficiencies, equipment on order, fire extinguishers (IV "GENERAL"), etc.

Item No. 1926

Location: Emergency diesel generator room
In the fire pump discharge line a funnel is fitted, in which a foam solution is added. A independent Line distributes the generated foam to the engine and boiler room and also to a foam gun on the forward and aft main deck.

Fire Extinguishers

2 pcs	Dry powder	Midship Accommodation ~~Bridge~~	6 kg
1 pc	"	" " ~~Center Castle~~	12 kg
2 pcs	"	" Pump Room Aft	6 kg
2 pcs	"	" Galley	6 kg
1 pc	"	" Fan Room aft	6 kg
1 pc	"	" Dry Store	6 kg
14 pcs	"	" Aft Accommodation	6 kg
1 pc	"	" " "	12 kg
1 pc	"	" Emergency Diesel Generator Room	6 kg
2 pcs	"	" Steering Gear Room	6 kg
2 pcs	"	" Forward Pump Room	6 kg
1 pc	"	" Forecastle	6 kg
2 pcs	"	" Forward and aft end of Passageway below Main Deck	12 kg
3 pcs	"	" Center Castle	6 kg

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LIFEBOAT AND LIFERAFT RECORD

Boat No.	Dimensions	Manufacturer	Model No.	Serial No.	Rated Cubic	Carrying Capacity	Agency Approved or Specification
1 stbd.	7.32 x 2.25 x 0.90		Information not available	5055	8.73 m^3	Persons 28	S.B.G.
Motor 2 port	"			5056	8.55 m^3	28	S.B.G.
Motor 3 stbd	"			5053	9.08 m^3	30	S.B.G.
4 port	"			5054	8.98 m^3	30	S.B.G.

Raft No.	Inflatable or Rigid*	Manufacturer	Model No.	Serial No.	Total Weight	Carrying Capacity	Agency Approved or Specification
1							
2							
3							
4							

* For inflatable liferafts indicate date of manufacture or last examination of raft and equipment.

LIFEBOAT ARRANGEMENT

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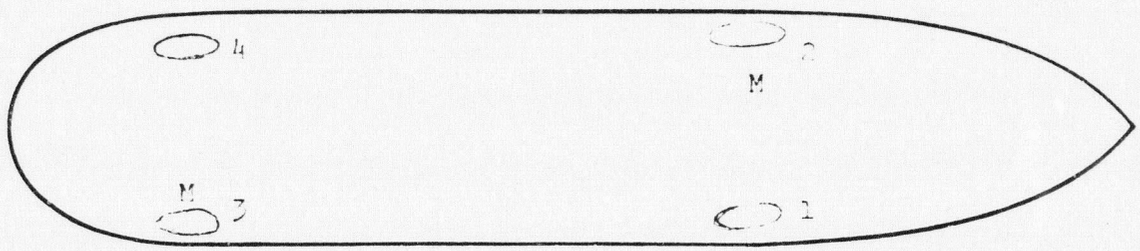
Indicate location of each lifeboat and liferaft (rigid or inflatable) by numbers as listed on previous page. Indicate location of motor lifeboats.



The undersigned, having examined the vessel as reported above, recommends a Cargo Ship Safety Equipment Certificate be issued for a period of twenty-four months in accordance with the provisions of the Convention.

G. Nachtigall

Surveyor, American Bureau of Shipping

G. Nachtigall

PLAINTIFF'S EXHIBIT 43.

March 22, 1971

Memo to File

TRADE DARING -
FIRE MARCH 18, 1971

On March 18, 1971, at 1115 hours, I went on board the MOBIL TRADER and interviewed personnel on board in connection with the above incident

The MOBIL TRADER arrived at Port Mobil at 1300 hours on March 17, 1971, and commenced loading Bonded Bunker Diesel at 1420 hours. She completed loading at 1510 hours, having taken on 115,424 gallons. As delivery time for this fuel was scheduled for 1930 hours, it remained at Port Mobil until 1900 hours, when it crossed the channel to the Hess Perth Amboy - State Street Terminal, where it tied up at 1930 hours alongside the TRADE DARING.

The TRADE DARING was moored portside to the Hess Terminal. The MOBIL TRADER tied up on the starboard side of the TRADE DARING, approximately midships, her starboard side to the TRADE DARING's starboard, so that the two vessels bows were facing in opposite directions. The MOBIL TRADER is 210 feet long; Captain Banks of the MOBIL TRADER estimated that the TRADE DARING was about 500 to 600 feet long. The wheelhouse of the MOBIL TRADER, which is at the after end of that vessel, was a little forward of the bridge of the TRADE DARING.

The MOBIL TRADER tied up to the TRADE DARING with bow and stern breast lines, a forward after spring and a midship forward spring.

Although the MOBIL TRADER had arrived at the specified delivery time, 1930 hours, it had to wait until 2250 hours before starting to pump the bunker diesel on to the TRADE DARING. Captain Banks stated that the delay was

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probably because the TRADE DARING was still discharging, and Hess will not allow bunkering while the terminal is receiving cargo.

The master of the MOBIL TRADER was Herbert Banks, age 49, home address Chetwynd Apartment 824, 1030 East Lancaster Avenue, Rosemont, Pennsylvania 19010. telephone (215) 527-0696. Captain Banks has been going to sea for approximately 20 years; he has been employed by Mobil for 14 years. He has been master of the MOBIL TRADER for three years, and before that he was master on various tugs. He received his masters license in about 1955.

Personnel on board the MOBIL TRADER work (two weeks on days off). Captain Banks came on board the vessel for this week's shift at 0900 hours on Monday, March 15, 1971. On March 17, the work day started at 0700. The voyage in question, involving the bunkering of the TRADE DARING, commenced at 1300 hours on May 17 when the MOBIL TRADER arrived at Port Mobil to take on fuel for the TRADE DARING.

Sampling of the fuel was done by Port Mobil personnel during the course of the loading of the MOBIL TRADER. No samples were taken by the MOBIL TRADER to the TRADE DARING as no sample had benn requested. In Captain Banks' experience, only Zim Israel Lines requests that samples be brought to them.

Del Rucup says 2+1

The fuel was loaded into No. 3 port and starboard tanks. These tanks are generally used only for diesel fuel and nothing else. In addition, one of the vessels pumps is used only for diesel, and hoses and lines are reserved exclusively for diesel. The MOBIL TRADER carries, in addition to diesel, only certain light fuels and bunker 6, both of which are even heavier than diesel and have an even lower flash point.

At about 0045 hours, March 18, Captain Banks was in his bunk when Deckhand Milano called him and advised him that he had finished pumping and was

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blowing out the line. Captain Banks completed his paper work for the delivery of the fuel and at about 0055 hours went on board the TRADE DARING via a latter which was a little aft of the hose. He noticed that there was no one on board the TRADE DARING tending the hose or ready to start disconnecting.

As he was heading aft on the TRADE DARING to present his papers to the chief engineer, when he was about 200 feet away from the stern house, he saw a huge ball of flame come out of the top of the after house. There was no sound of any explosion. He immediately went back to the MOBIL TRADER and told Milano, who at that time was engaged in the stern line, that the TRADE DARING was on fire. He then went into the wheel house, told Deckhand George Beekman, to assist Milano in casting off, and went to the bridge. Milano started the vessel's two main engines, then went on board the TRADE DARING to disconnect the hose, with Beekman handling the block hand for the hose. At this point the pilot on the bridge of the TRADE DARING was shouting down to him to get the MOBIL TRADER away from the ship, which of course could not be done until the hose was disconnected. When Milano came back on board the MOBIL TRADER, having disconnected the 6 inch hose from the 4 inch hose (the latter being left on board the TRADE DARING), crewmen from the TRADE DARING then let go the MOBIL TRADER lines and Captain Banks immediately pulled the MOBIL TRADER away from the TRADE DARING and returned to Port Mobil. After the MOBIL TRADER had docked at Port Mobil, Captain Banks could see fire in the doors and passageways of the after end of the TRADE DARING. The fire still appeared to be confined only to the after end of the vessel.

Tranquillo Christoforo Milano, age 54, home address 495 Taylor Avenue, South Hackensack, New Jersey, telephone (201) 343-5033, deckhand on the MOBIL TRADER. He has been going to sea since 1944, when he started working for Mobil. From 1952 through 1962, he worked for the cleaning farm.

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since 1962, he has been employed on barges and tugs as a tankerman/A.B. He has been on board the MOBIL TRADER for about two years.

He also came on board for this week's shift at 0900 hours on Monday, March 15, 1971. Connecting of the hoses took place from about 2220 hours. In order to reach the deck of the TRADE DARING, it was necessary to connect together two hoses, one 4 inch hose 12 feet long on the deck of the TRADE DARING, and one 6 inch hose 30 feet long to the MOBIL TRADER. The connecting together of the two hoses was done by TRADE DARING crewmen.

Pumping started at 2250 hours on March 17. Just prior to that time, Milano talked to an engineer on the deck of the TRADE DARING, who asked how fast they could pump. Milano replied 200 tons per hour. The engineer then said wait five minutes and went away. After five minutes he came back and asked Milano to start pumping slowly at first. Milano then called to Beekman to start the pump slowly. In less than five minutes the TRADE DARING engine asked that the speed be increased to 200 tons.

After the pumps had been started, Milano remained on deck during the pumping, from time to time taking in the slack on the lines as the MOBIL TRADER rose in the water and the TRADE DARING, which was taking on ballast as well as full, became deeper in the water.

At about 2330-2335 hours, a McAllister tug came alongside and asked Milano what time the bunkering would finish and advised that the TRADE DARING was supposed to sail at 1:30. At a little after midnight, a man on the bridge of the TRADE DARING who Milano assumed was the master asked Milano when pumping would finish and asked if he could pump faster. Milano advised that they were pumping at full speed and the master said "Do your best."

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about 15 or 20 minutes later, the master again asked Milano, how much longer the pumping would take. This was about 12:30; Milano replied, about 15 minutes.

At 0045 hours Milano began stripping the tanks, first the starboard and then the port, and started blowing the line. He then went into the wheelhouse and woke Captain Banks and told him that the delivery had been completed. He then went back out on deck and saw the master and another person by the hose; the master gave him a sign to stop the pump. Milano stopped the pump and shut the tank off. The master then asked: "Do you have to do more pumping?" Milano replied that the pumping was all finished.

When Captain Banks came out, Milano held the ladder for him while he went on board the TRADE DARING, then started taking in slack in the foreward line, then started taking in slack in the foreward lines, then walked aft to take in slack on the stern lines. At this point, Captain Banks came and told him that the TRADE DARING was on fire. Milano had heard no sound of any explosion; he could not see any flames but he did see some smoke. The night was clear and the stars and moon were visible. The smoke appeared to be coming from the stern, but Milano noted that the wind was coming from the bow of the TRADE DARING and heading astern.

Milano went out and started the two engines and then told Captain Banks that he had to disconnect the line. He went on to the TRADE DARING but found that the bolts which the TRADE DARING crew had used to connect the two lines were of a size which his wrench did not fit. He called Beekman who put different size wrenches into the bucket which Milano then hauled on board. Before disconnecting the two hoses, Milano had to undue a line which the TRADE DARING crew had tied to the 6 inch hose. He looked around him on the TRADE DARING for some crew members to help him to this but there was no one in sight. When he started working on the bolts on the connection, men began coming forward

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through unbolting, all of the lights on the TRADE DARING went out, and he had to finish unbolting in the dark. In order to remove the last two bolts, he had to call to Beekman to let down the (crane holding the hose) a bit so that he could work them out of the flange.

When the bolts were out, Beekman lowered the hose. Milano went back on to the MOBIL TRADER and he and Beekman took in the lines, which TRADE DARING crewmen let go.

As the MOBIL TRADER pulled away, Milano saw a tug at the stern of the TRADE DARING, and a tug amidships where the MOBIL TRADER had just left, and a tug at the bow. He did not, however, see any fire until the MOBIL TRADER was at Port Mobil.

George Beekman, deckhand, age 31, 46 Goodall Street, Staten Island, New York, (212) 356-6897. He has been going to sea for four years on Mobil vessels as a tankerman and A.B. he came on board the MOBIL TRADER for the week's shift at 0900 hours on Monday, March 15, 1971.

He was in his bunk at about five minutes after one on May 18, when Captain Banks called him and told him there was a fire on the TRADE DARING. When he went on deck, he saw smoke which appeared to come from the vents from the engine room. He had heard no explosion and saw no flames.

He then assisted Milano in taking in the hose by operating the boom and then both he and Milano took in lines loosened by the TRADE DARING crew.

After they had let go and the MOBIL TRADER had moved away, he did not look back at the TRADE DARING until they were at Port Mobil, when he saw flames from the stern for the first time.

PLAINTIFF'S EXHIBIT 43

He was present with Milano when the latter was conferring with the TRADE DARLING engineer regarding the rate of pumping, and he also assisted in starting (and stopping?) the pump.

T. W. White

PLAINTIFF'S EXHIBIT 44.

SALVAGE ASSOCIATION, LONDON

"IN ACCEPTING THIS REPORT OR CERTIFICATE IT IS AGREED THAT THE EXTENT OF THE OBLIGATION OF THIS ASSOCIATION WITH RESPECT THERETO IS LIMITED TO FURNISHING A SURVEYOR BELIEVED TO BE COMPETENT, AND IN THE MAKING OF THIS REPORT OR CERTIFICATE THE SURVEYOR IS ACTING ON BEHALF OF THE PERSON REQUESTING THE SAME, AND NO LIABILITY SHALL ATTACH TO THIS ASSOCIATION FOR THE ACCURACY THEREOF."

ONE WORLD TRADE

Cable Address "WRECKAGE" New York

New York N.Y. 10048 June 23, 1971

SURVEY REPORT NO. 30742

This is to Certify

that the undersigned Surveyor at this port did at the request of

Despard & Co., 161 William Street, New York, New York, 10038 and on behalf of the Underwriters concerned attend survey on board the single screw steel motor tanker:

"TRADE DARING"

15,004 Gross Registered Tons of the Port of Monrovia

Owners: Navieros Oceanicos S.A.

for the purpose of ascertaining the nature and extent of damage alleged to have been sustained under the following circumstances:

On 18th March 1971, whilst the vessel was lying afloat at Hess Oil Dock, Perth Amboy a fire broke out in the Engine Room between 0045 hours and 0100 hours and spread into the after Superstructure Accommodation.

For further particulars please refer to the Vessels' Log Books which were not examined by the Undersigned and statements made by the crew etc.

GENERAL INFORMATION

It was further stated that when the fire broke out in the Engine Room of the vessel, the vessel had completed discharge of cargo and was in the process of receiving bunkers. Diesel oil was observed by the E.R. Staff to be flooding the save all of the tweendeck oil filtration plant and cascading over the top of the save all onto the port for'd generator. It was assumed, that the common overflow tank had been filled, and fuel oil had backed up a scupper pipe from the filter plant save all to the overflow tank, subsequently flooding the save all as described above.

When the fire broke out, the deck crew commenced fire fighting operations, and assistance was obtained from Perth Amboy and New York City Fire Department. The United States Coast Guard were also standing by.

Due to the severity of the Fire the vessel's Moorings were released and the vessel was towed to Amboy Anchorage by the Tugs, "Grace McAllister" and "Catherine McAllister".

The United States Coast Guard continued in attendence together with two New York City Fire Boats.

The fire is said to have eventually burnt itself out at 0930 hours on the 18th March 1971 and at approximately 2200 hours the vessel was towed from the anchorage to the premises of Bethlehem Steel Corporation; Hoboken, New Jersey.

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GENERAL INFORMATION (Cont'd)

On the 18th March 1971, the Undersigned Surveyor, together with the Owners Representative and other interested parties proceeded to Amboy Anchorage where the vessel was lying afloat and found as follows:

The seat of the fire appeared to have been located in the port forward corner of the Engine Room, Lower Platform level, the machinery located in the area was heavily damaged by fire and intense heat. The fire then spread to the port forward corner of the Engine Room casing, circumvented the casing and burnt out the casing, etc., up to the skylights and down to approximately 8'- 0" above the lower plates. The fire then spread out into the accommodation at main deck level and burnt out the entire accommodation on the main deck, poop deck and boat deck.

The poop shear strake was distorted on the port and starboard sides above the main deck, the main deck, poop deck and boat deck were extensively buckled overall and the deck sheathing on the poop deck and boat deck lifted as much as 2'- 0" in places.

The accommodation spaces were totally burnt out internally down to the bare metal of the superstructure and bulkheads which were heavily distorted together with internals. The funnel was also distorted at the base and the internal structure buckled. The Engine Room casing also burnt down to bare metal and heavily buckled. Engine Room floor plates, stairways, ladders, etc., were distorted together with the skylights, upper casing, crane gantry and supports etc.

The entire Engine Room space and equipment from the skylight down to the bilges was heavily coated with oily deposits of soot and residue and the bilges up to floor plates level were full of oil, water, debris and ash etc., which had coagulated into a solid mass and was impossible to pump. Power and lighting circuits were all affected by fire and the various auxiliaries together with the main engine affected by heat to varying degrees. The associated services such as lub oil, fuel oil, diesel oil, fresh water, sanitary water, F.W. and S.W. cooling water, bilge and ballast and feed water lines all subjected to heat.

When the Engine Room was evacuated the items in operation at the time were left running together with the port and starboard boilers. The Boiler Room and Refrig. compartment were affected by smoke only inasmuch as the fire is concerned. The Steering compartment was completely flooded and filled with debris. The various Engine Spares stowed on the Engine tops were affected by heat and all ducting for ventilation etc., in the Engine Room was distorted. All insulation on piping systems, casing, ducting, exhaust gas boiler damaged, by excessive heat. The 4 generators on the lower floor level have been subjected to heat and then semi submerged in the oil and water etc., in the bilges.

The Vessel was in a ballasted condition and neither the tanks or the Engine Room were gas free.

The Undersigned subsequently attended on board the vessel as she lay afloat at the premises of the Bethlehem Steel Corporation, Hoboken, N.J., together with the Owners Representative and various other interested parties and the following recommendation with a view to inviting bids from various Ship Repairers were made:

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FOUND	RECOMMENDED
Steel Decking: (Cont'd)	
	Remove and renew two longitudinal deep webs, fabricated 12" x 6" TEE. Total 204 sq. ft. of 30.6# plate. Total 204 lineal ft. of 6" x 1" 20.4# flat bar. Total approx. 20 sq. ft. of 20.4# plate for tripping brackets.
01 Level (Poop) deck plating in way of after house, badly buckled.	To be removed and renewed from approx. Frame No. 10 to Frame No. 52. Approx. 5100 sq. ft. of 15.3# plate. Remove and renew under deck stiffening. Approx. 2000 lineal ft. of 7" x 4" x 7/16" x 15.8# angle. Remove and renew six transverse deep webs, fabricated 10" x 6" TEE. Total 104 sq. ft. of 15.3# plate. Total of 104 lineal ft of 6" x ½" x 10.2# flat bar. Remove and renew two longitudinal webs. Fabricated 10" x 6" TEE. Total 204 sq. ft. of 15.3# plate. Total 204 lineal ft. of 6" x ½" x 10.2# flat bar. Total approx. 20 sq. ft. of 20.4# plate for tripping brackets. Remove and renew six 4" diameter pipe stanchions under fore and aft deep webs. Total 45' of 3" dia. standard pipe.
Boat deck plating in way of after house, badly buckled.	To be removed and renewed from approx. Frame No. 10 to Frame No. 52. Approx. 5500 sq. ft. of 15.3# plate. Remove and renew under deck stiffening. Approx. 2100 lineal ft. of 6" x 3/8" x 11.7# angle. Remove and renew six transverse webs. Fabricated 6" x 5" TEE Total approx. 90 lineal ft. of 6" x ½" 10.2# flat bar.

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REPLENISHMENT OIL AND FUEL

Owner to furnish all new lube and fuel oil.

WATCHMEN

Furnish services of a watchman for duration of repairs.

TESTS

All machinery, motors, pumps, equipment, etc., to be test run by contractor. Owner to conduct dock trial and sea trial. Contractor to furnish necessary mechanics to make adjustments.

TUGS AND SHIFTING

Contractor to furnish men and tugs to shift vessel in Yard.

DRAWINGS

Contractor to furnish all approved working, structural, general arrangement, piping and ventilation drawings.

FIRE FIGHTING EQUIPMENT

All CO2 bottles - fire hose axes in the quarters and machinery spaces destroyed by fire.

All portable CO2 bottles, fire hoses, complete with nozzles, fire axes to be renewed. Fire hose racks and recesses to be renewed.

REFRIGERATED STORES

Remove and dispose of all perishable stores.

CLEANING FOR SURVEY

Furnish labor to pump out water and oil in the engine room.- refrigerated stores space and upper deck space.

Furnish temporary lights to conduct survey.

Maintain pumping operation as water and oil collects in the Engine Room.

The aforementioned recommended repairs were not effected. Taking into account the extensive damage sustained to the vessel the undersigned is of the opinion that the cost of effecting permanent repairs in order to place the vessel in the same condition as before the casualty occurred would exceed her insured value.

R. S. Crowther

ORIGINAL SIGNED

R.S.CROWTHER
UNDERWITERS' SURVEYOR

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J A C Q U E S A. C A S E, 338 East 53rd Street, New York, N. Y. 10022, called as the official interpreter in this matter, was duly sworn by the Notary Public (C. A. Michaelini) to accurately and faithfully translate the questions propounded to the witness from English to Greek and the answers given by the witness from Greek to English.

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T H E O D O R O S P. B A F A L O U K O S, called as a witness by petitioner, being first duly sworn by the Notary Public (C. A. Michaelini) and stating his residence as 38 Vosporou Street, Charavgi, Piraeus, Greece, testified (through the interpreter) as follows:

EXAMINATION BY MR. TUBLIN:

Q Would you please state your full name and home address?

A Theodoros P. Bafaloukos, 38 Vosporou Street, Charavgi, Piraeus, Greece.

Q How old are you?

A 32.

Q What is your occupation?

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Bafaloukos 4

A Seaman.

Q How long have you engaged as a seaman?

A Since 1957.

Q What was your last job on board ship?

A Engineer.

Q On what ship was that?

A TRADE DARING.

Q When did that job end?

A I didn't understand this.

Q When did you leave the ship?

A On March 18th.

Q How long were you employed on that ship?

A From January 25th up to and including March 18th.

MR. WAESCHE: What year?

A 1971.

Q What was your position on the TRADE DARING?

A Third engineer.

Q What was your next previous employment before the TRADE DARING?

A Again, an engineer.

Q On what ship?

A On a ship called AVANCES.

Q How long were you employed on that ship?

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A Two months.

Q What was her main motive type of power?

MR. WAESCHE: I object to the form of the question.

MR. TUBLIN: On the AVANCES.

A Diesel engine. Doxford diesel engine.

Q What was your next previous employment prior to the AVANCES?

A The third prior employment was AIMA.

Q And what was your position on the--

THE INTERPRETER: Wait, I beg your pardon.

A AIMA METHENITI.

Q What was your position on the AIMA METHENITI?

A Third engineer.

Q How long were you employed on that vessel?

A One year.

Q What was the nature of the motive power on the AIMA METHENITI?

A Doxford.

Q What was your next prior employment prior to the AIMA METHENITI?

A On the vessel whose name is KILINI, shipowner Diamandis.

Q What was your position on that ship?

A Third engineer.

Q How long were you employed on that ship?

A One and a half years.

Q What was the nature of her motive power?

A Lister.

Q Was that steam or diesel?

A Diesel.

Q What was your next prior employment before the KILINI?

A On another vessel called KARPATHOS.

Q What was your position on that ship?

A Third engineer.

Q How long were you on that ship?

A Five months. Not quite five months.

Q What was the nature of her motive power?

A Sultzer diesel.

Q What was your next prior employment before the KARPATHOS?

A I worked on the vessel called MARGY.

Q What was your position on that ship?

A I was a maintenance man.

Q How long were you employed on that ship?

A 28 months.

Q Do you have any license issued by any

governmental authority?

A Yes, I do.

Q What license?

A I have a fireman's license.

Q What governmental authority issued that?

A The Greek Ministry of Merchant Marine. I also have another license.

Q What other license is that?

A I don't know the term, sir.

MR. WAESCHE: I request the translator doesn't put words in his mouth.

THE INTERPRETER: I don't know the term, he--

MR. WAESCHE: And don't lead him.

THE INTERPRETER: I didn't lead him. I said what is that.

MR. WAESCHE: You said second engineer.

THE INTERPRETER: That was in a question.

MR. WAESCHE: Don't lead him.

THE INTERPRETER: I don't know, it means second class engineer driver literally translated, however, I don't know exactly what it stands for in English.

MR. TUBLIN: I don't know what the

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record states.

THE INTERPRETER: If I may, off the record or on the record, as you like.

MR. TUBLIN: Go on the record since there is a colloquy. I don't know what direction it is.

THE INTERPRETER: This is a maritime Greek-English dictionary and it lists the word he used as engineer driver, Class 2, he said.

MR. TUBLIN: All right. Now, may we have the question again?

(The question was read.)

A Those two, fireman and engineer driver, Class 2.

Q Who issued the license engine driver, Class 2?

A The Greek Ministry of Merchant Marine and the Greek Port Authority.

Q Were you in charge of any watch on the TRADE DARING?

A Yes, I did.

Q What were the hours of that watch?

A 12:00 to 4:00

Q Were you employed on board the TRADE DARING in the early morning hours of March 18th?

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Bafaloukos 16

A Barge's. It was accomplished through the pumps of the barge.

Q Where was your vessel receiving the bunkers from the barge when you first went on watch?

MR. WAESCHE: Objection to the form of the question.

Q In what part of your vessel were the bunkers being loaded when you first took over the watch?

A From the right side of our vessel.

Q In what tanks or compartments of your vessel were the bunkers being loaded?

A On the side tanks.

Q Had you been on watch at the time the bunkering began?

A It had began before I took on my watch.

Q At the time you began your watch, how much bunker oil was in the side tanks?

MR. WAESCHE: Objection, unless a foundation is laid for the witness' knowledge.

Q At the time you began your watch, did you know how much bunkers were in your side tanks?

A About. Approximately.

Q How did you make that determination?

A I looked through an opening of the side tank

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at the top with a flashlight and we can determine at what level, or notch, the bunkering is at the time.

Q Where are the side tanks located on your ship?

A In the front part of the rear accommodation deck.

Q How many side tanks are there?

A Two.

Q Where are they located?

A The two side tanks are between the right and left side of the vessel.

THE INTERPRETER: I have to ask him to repeat the last part.

A In front of the front accommodation desk.

Q Will you describe the opening to the side tank that you mentioned that you had looked through?

A Yes. I didn't understand this, say it again. More analytically.

Q Please describe the openings to the side tanks that you had looked through.

A The front accommodation and the rear accomodation, the two tanks were on either side of the two sides of the ship, and the covers of the side tanks were open during bunkering so that we could watch what was

PLAINTIFF'S EXHIBIT 45
Bafaloukos 19

can identify it (handing to witness).

A This is the side tank, and here, pointing to the black area, is the level of the petroleum, or bunkering.

MR. TUBLIN: I should like to have this marked as Petitioner's Exhibit 1C for identification.

(Photograph, marked Petitioner's Exhibit 1C for identification, as of this date.)

Q When was the first time after you had gone on watch that you had looked into the side tanks?

A The moment I took on my watch my first job was to look at the level or notch of the petroleum in the side tanks.

Q What did you observe with regard to the level of oil in the side tanks?

A I observed that the level was very low, the level of the oil was very low.

Q Was there a way that you could tell the different levels of oil in the side tanks?

A They were very low, however, they were about the same level.

Q Is there a ladder into the side tanks?

A Yes, there is.

Q Where does that ladder go to with respect to the top or bottom of the side tank?

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Bafaloukos

A It ends down to the right side.

Q Does the ladder go to the bottom?

A I have never been down to know if it goes all the way down.

Q Can you measure the level of the oil in the side tanks by the rungs of the ladder?

A Naturally we see when they are on the same level how many steps there are in one tank presumably and how many in the other.

Q When you first looked into the tanks--

MR. WAESCHE: There is no testimony that he looked into tanks, only one, singular.

MR. TUBLIN: Let's go back to the record.

MR. WAESCHE: I object to the form of your question.

(The record was read.)

Q When you first looked into the tanks, did you observe the level of the oil with respect to the rungs of the ladders in the tanks?

A Yes, about right,left, ten rungs, ten steps.

Q Was that ten steps from the top or from the bottom?

A No, from the top because the bottom we don't

PLAINTIFF'S EXHIBIT 45
Bafaloukos 21

know.

Q After you had observed the level of the oil in the side tanks when you first went on watch, what did you then do?

A Then I went down to the engine room.

Q What did you do there?

A I inspected my boilers to see if they are okay. Then I went down to the engine level platform and I inspected the electrical generators.

Q What did you do then?

A In the meantime I also inspected the daily tanks--day tanks to see if they have oil in there because the vessel was going to leave and I had to make sure.

Q What did you do thereafter?

A Then I went downstairs and I inspected the electrical generators and the circulation pumps.

Q What did you do after that?

A And then I returned upstairs and completed the gas-oil tank.

Q What did you do with respect to completing the gas-oil tank?

A I opened the valve through which the bunkering oil goes into the gas-oil tank.

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Q What did that do?

A It caused the oil to go to the gas-oil tank to fill it up.

Q Did you fill the gas-oil tank?

A Yes, I did.

Q What did you do after you filled the gas-oil tank?

A I returned to the deck to watch the side tanks.

Q After you had filled the gas-oil tank, did you shut off the valve?

MR. WAESCHE: Leading.

MR. TUBLIN: Leading to the gas-oil tank.

MR. WAESCHE: Your question is leading. Grossly leading.

MR. TUBLIN: Would you repeat the question, please?

(The question was read.)

MR. WAESCHE: And that is objected to.

A Yes, of course.

Q What did you do next?

A Then I returned to the deck to watch the level of the bunkering oil in the side tank.

Q About what time was that?

A Do you mean the time when I completed the gas-oil tank operation?

Q Yes.

A About 12:15 to 12:20.

Q When did you return on deck?

A As soon as I completed the filling of the gas-oil tank I went up to the deck.

Q What did you do there?

A There I was watching the level of the oil.

Q How were you watching the level of the oil?

A By using a flashlight I observed the level of the oil on the right and left side tank through the openings.

Q Did you have occasion to call out any other engineers during your watch for work?

A With reference to bunkering?

Q With reference to work on the ship.

A At that moment I didn't need to. However, at 12:30 I caused the second engineer to wake up.

Q Why did you have him awakened?

A To get up because the vessel was going to depart so that he might prepare the engine.

Q After the second engineer was called, what did you do?

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A I returned to the deck to continue my watch of the side tanks.

Q How long did you remain watching the side tanks?

A Continuously.

Q Did you receive any instructions with regard to what level to fill the side tanks to?

A Naturally, of course.

Q What were those instructions?

A I received instructions from the first engineer that when the oil level reached the second rung of the ladder from the top I should notify the barge to stop.

Q Did you observe whether the oil level in the side tanks ever reached the level of the second rung?

MR. WAESCHE: That is again leading. Ask him what he observed.

MR. TUBLIN: Strike the question.

Q What did you observe with regard to the progress of the filling of the side tanks?

THE INTERPRETER: He said break this down for me,analyze it for me.

MR. WAESCHE: You are to give him the question as it is framed by Mr. Tublin.

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Bafaloukos 25

THE INTERPRETER: Correct,sir. That's what I did, sir. However, I had to say it slower and rearrange it for him to understand it.

MR. WAESCHE: But you are not to rearrange it. You are to say it exactly verbatim as Mr. Tublin gave it.

THE INTERPRETER: That's exactly what I did. However, it is possible to do it verbatim in one or two ways, sir. You can understand it if you know the language, sir.

A The oil was rising regularly at the same level on both side tanks.

Q To what level did you observe it rising to?

A Up to the second rung from the surface of the deck.

Q Did you observe whether the oil had reached the second rung from the deck in both tanks?

A At that moment it was barely touching, but had not quite completed the second rung.

Q What did you do, if anything, at that time?

A Of course I had to notify the barge to stop.

Q Did you do anything in that regard?

A Naturally.

Q What did you do?

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A I headed toward the right side of the vessel where the barge was.

Q And what did you do then?

A Then I called to the bowman, to the man that was pumping the oil.

Q Where were you standing on your ship when you called to the pump man?

A Exactly at this point above the barge where my finger is (indicating).

Q Would you mark it with a pen (handing to witness)? Referring to Petitioner's Exhibit 1A.

A Yes.

MR. TUBLIN: The witness has marked it Exhibit 1A in light green ink in the form of a small dot.

Q When you called to the bowman on the barge, did you see him?

A No, he was not on the deck. I had to call out to him many times.

Q After you had called out to him, did you see him?

A Then I saw him coming out of the accommodation area of the barge on the right side.

Q When you called to him, what did you say?

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A I told him, "Pump man, stop the pump, I have finished bunkering," and also by means of hand signs. And he said to me, "Okay."

Q When you spoke to him, did you speak to him in English or in Greek?

A In English. The man doesn't understand Greek.

Q Did the man on the barge reply to you?

A He said okay.

Q What did you do next?

A Then I returned, closed the lids of the side tank and then I went to the office of the first engineer and informed him that bunkering had been completed.

Q When you say first engineer, is that the same terminology for chief engineer?

A In Greek ships we have only one first engineer, chief engineer.

Q After you advised the chief engineer that you had finished bunkering, what did you do next?

A Then I went down to the engine room.

Q About what time had you told the barge man to stop pumping and finish with bunkers?

A 12:42.

Q When you returned to the engine room, what did you do?

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A I went to the engine room and again passed through--

THE INTERPRETER: A word I don't know--

A --to check my tanks.

THE WITNESS: Steam room.

MR. TUBLIN: Would that be boiler room?

THE WITNESS: Boiler room. Same. Boiler room.

THE INTERPRETER: He says that it is the boiler room. Stoke hold it says here.

Q What did you do there?

A I inspected the tanks to make sure that the steam was regular at that spot, if they needed to find out if the man there needed me and then in turn--and then after that I went to the platform in the engine room to watch the remaining equipment and pumps.

Q Is the boiler room and the engine room of the TRADE DARING in the same room together, or are they in different compartments?

A They are in separate areas.

Q What did you do then when you returned to the engine room?

A Then I observed through the glass indicators of the overflow of the side tank and saw that the oil

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Bafaloukos 31

Q When you looked into the sight glasses for the side tanks overflow line what did you observe?

A I observed that the oil is coming with great pressure.

Q What did that indicate to you, if anything?

MR. WAESCHE: I will object to that. He testified what he observed.

Q You may answer the question.

A I assumed at that moment that they had not stopped pumping the oil from the barge and this is why there was an overflow.

MR. WAESCHE: Well, I move that that be stricken as a conclusion.

Q What did you do next?

A Exactly at that moment I ran upstairs to go toward the barge to see what they were doing, had they stopped, what was the pump man doing.

Q Then what happened?

A Climbing the stairs up I came across the second engineer.

Q Then what happened?

A Who was coming down to the engine room for the preparation because we were going to shove off.

Q Did you have any conversation with the second

engineer at that time?

A I didn't stop at that moment, but I told him in passing that I had notified the pump man on the barge to stop and yet the oil was coming through overflowing.

Q What did you do there after that?

A And in the meantime I forgot to tell you that I climbed on the left staircase of the engine room, I crossed the inter-platform bridge and I came out through the right corridor to go to the deck.

Q Then what did you do?

A When I came out on the deck I walked toward-- I proceeded toward the barge--

MR. WAESCHE: Is the word "walked"?

THE INTERPRETER: No, he said the word "proceed," sir.

A --proceed toward the barge and saw at that moment the captain who was at the middle accommodation deck.

Q What did you do?

A And then I called out to the captain that he also might call as I was calling that they should stop the pumping of the oil.

Q What then happened?

A Then we both called toward the pump man of the

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barge who reappeared from the accommodation area of the barge from the righthand door as on the last occasion.

Q Then what happened?

A The pump man proceeded to his engine, pump.

Q Where was that located?

A At the middle of the barge toward the right side.

Q Then what happened?

A I saw the pump man operate his engine slowly and at the same time he was closing a valve.

THE INTERPRETER: Making a circular motion of the hand.

Q Then what happened?

A And following that I turned off our own valve on our deck.

THE INTERPRETER: Pointing to the valve right here (indicating).

MR. TUBLIN: Exhibit 1A marked for identification.

Q Then what happened?

A Then running I hurried to the engine room. From the same direction I came into the deck.

Q When you and the captain were calling to the pump man on the barge, what did you say, or the captain

PLAINTIFF'S EXHIBIT 45
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say to the pump man on the barge?

A We told him to close up as fast as he can, to stop immediately.

Q Did he say anything in reply?

A No, but he ran fast.

Q At that time how many people did you observe on the deck of the barge?

A Him only. There was no one else.

Q Did you return to the engine room after that?

A Naturally.

Q Where did you go and what did you do?

A Coming down to the engine room to the third platform near the--

THE INTERPRETER: He is using again something I don't know.-

A --of the oil for the engine I came across the second engineer. This is on the left side of the engine room.

THE INTERPRETER: He is using a word dasia, I would like to explain to you, he said, what they are.

A It is a basin that is a square in here, it has two diesel oil filters which when we clean them the dirty portion of the oil falls into these dasia and then off.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 35

Let's call them better, basins.

MR. WAESCHE: Is it clear at what level he saw this?

MR. TUBLIN: I was just going to get to that. I think it should be clarified.

Q What level of the engine room did you see the second engineer at that time?

A On the third platform.

Q About what time was that?

A It must have been 01250.

Q Then what happened?

A Then I saw in these basins we described oils coming out.

Q What kind of oil coming out?

A Diesel oil, oils coming out, which began already to overflow.

Q Then what happened?

A Then I was given instructions by the second engineer to cover, or throw over No. 3 electrical generator a tarpaulin, or an overcoat.

Q Where was the No. 3 electrical generator located with respect to the basins that you were describing?

A It was exactly on the right side of the engine

room exactly under the basins.

Q How far under the basins?

A Underneath the third inter-platform bridge and under that the third electrical generator.

Q Will you tell us on what level the No. 3 electrical generator was located in the engine room?

A Do you mean at exactly what spot?

Q No, what level with respect to the height, or different height levels in the engine room?

A On the platform--between the platform and the--

THE INTERPRETER: Then he uses another word I don't know, baniola, whatever that means. I can try to look it up. He said to me, did you understand what I told you? And if I have your permission I would like him to explain what baniola is. Because I don't know the word in English. It says here, baniola, ceiling, floor,ceiling, floor boards. Predominant meaning seems to be ceiling.

MR. TUBLIN: Could we have the question and answer from the witness, please, previous to this?

(The record was read.)

MR. TUBLIN: Let me rephrase the

PLAINTIFF'S EXHIBIT 45
Bafaloukos 37

question again.

Q Could you tell me how many different height levels there are in the engine room?

A There are three height levels, three platforms.

Q Will you give us a name to describe each of the levels in the engine room to indicate the lower level, the middle level and the higher level?

A The first platform down below is the platform on which are located the electrical generators and the various pumps.

The second platform where the panel of the electrical generators are--the panels of the electrical generators are.

The third platform in which are the lids of the engine--

GERACE: Cylinder heads.

THE INTERPRETER: Cylinder heads.

A On the third platform on the left and on the right are the day tanks. And these basins in which was the overflow on the left is on the third platform--are on the third platform.

Q On what level or platform are located the sight glasses for the overflow pipes for the sight tanks?

A On the first platform.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 38

Q After you saw the oil coming out of the basins you described,what did you do?

A I ran to the electrical generator, I threw an impermeable covering over it, the electrical generator, to cover it.

Q What was the covering that you threw over the electrical generator?

A It was not a tarpaulin, it was an impermeable material.

THE INTERPRETER: I would like to make a statement here, (Greek) in everyday speech means a raincoat in modern Greek. Whether an actual raincoat is involved or just impermeable material, I am not clear.

Q Did you throw a raincoat over the electrical generator?

A Yes, we had a raincoat which we used--which we had used previously and which happened to be there at the time.

Q What happened then?

A Then I received an order from the second engineer to cease the operation of the electrical generation, stop it--electrical generator.

Q What did you do?

PLAINTIFF'S EXHIBIT 45
Bafaloukos 39

A At the very moment as I was stopping the generator there was a fire from the sides and from the lower side which reached to the basins above where there was an overflow of oil.

Q Would you describe what the overflow of oil was?

A The overflow of oil was a constant flow of large quantity falling on the generator.

Q Where was it coming from?

A From the basins above.

Q On what level?

A From the third platform it was falling down to the first platform and onto the electrical generator.

Q Can you describe for us in a descriptive manner the quantity of oil that was falling?

A Quite a large quantity.

Q Was there oil falling on the electrical generator before or after you threw the raincoat over it?

A Before I put the raincoat on the oil had already been falling.

Q Will you describe for us the No. 3 electrical generator?

A Why can't I? Of course.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 40

Q Please go ahead.

A The generator of the electrical generator is toward the front part of the engine room.

Q What type of motive power turns the electric generator?

A 220 horses.

Q What kind of machinery is it?

A Diesel.

Q After the fire started, what happened?

A As soon as the fire started it leaped instantly from Platform 1 to Platform 3 where the basins were, which were overflowing.

Q Then what happened?

A Seeing the fire myself I moved toward the fire extinguishers in order to put the fire out.

Q Then what happened?

A But the fire had already expanded so much that the engine room was full of asphyxiating smoke.

Q Then what happened?

A At that moment the second engineer gave us instructions to abandon the engine room fearing a possible explosion.

In the meantime we did not get a chance to use the fire extinguishers.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 44

the pump man the first time?

A Yes, of course.

MR. TUBLIN: I would like to have this photograph marked as Petitioner's Exhibit 1E for identification.

(Photograph, marked Petitioner's Exhibit 1E for identification, as of this date.)

Q I show you another photograph and ask you, does this photograph represent a similar pose as Exhibit 1E but from a different angle (handing to witness).

A Yes, it does.

MR. TUBLIN: I would like to have that marked Petitioner's Exhibit 1F for identification.

(Photograph, marked Petitioner's Exhibit 1F for identification, as of this date.)

Q Could you tell us at about what time you observed the oil flowing through the sight glasses of the overflow lines?

A About 12:49.

Q Could you tell us at about what time the fire started in the engine room of the TRADE DARING?

A About 12:53. 12:52.

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PLAINTIFF'S EXHIBIT 45

AFTERNOON SESSION

2:00 p.m.

T H E O D O R O S P. B A F A L O U K O S,

resumed the stand and testified further as follows:

EXAMINATION BY MR. WAESCHE:

Q Mr. Bafaloukos, does the Greek Ministry of Merchant Marine issue a document entitled "Third Engineer's License"?

A Yes, of course.

Q What does one have to do to qualify for such a license?

A He must previous serve on a vessel, otherwise he cannot get it.

Q Must he take an examination in order to obtain the license?

A Yes.

Q Is there any requirement that he must have some formal education in a nautical academy before obtaining such license?

A Are you asking with reference to officers or to lower level crews?

Q I am asking with reference to the obtaining of a third engineer's license.

A Yes, of course.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 50

Q Do you hold a third engineer's license issued by the Greek Government?

A Now I do not have. Only that of a greaser and fireman.

Q Were you serving on board the TRADE DARING as a third engineer?

A Of course.

Q Do you hold any licenses issued by the Government of Liberia?

A I do not.

Q Do you hold any certification issued by the Government of Liberia?

A My papers are from Greece. I have nothing to do with Liberia.

Q Is the TRADE DARING registered under the laws of the Republic of Liberia?

A Since it carries that flag, I don't know these things. It's not my job, it's the shipowners.

Q What flag does she fly?

A Liberian.

Q Can you read German?

A I cannot.

Q Can you understand German?

A I do not.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 51

Q Could the Pakistanian native who was on the 12:00 to 4:00 watch with you speak Greek?

A No, only a few words does he understand relative to his work.

Q Can you speak Pakistani?

A No. I do not.

Q Was the motor man on the 12:00 to 4:00 watch a Greek national?

A Yes, of course.

Q How many tanks are there on the TRADE DARING which hold diesel fuel oil?

A There are the two side tanks, the gas-oil tank, two settling tanks, two day tanks and two small tanks for the electrical generators. There is also a tank for the fuel called also a side tank.

Q By fuel do you mean the fuel oil used for your boilers?

A Yes, I do.

Q Are there any tanks which hold diesel fuel forward?

A There are two tanks forward.

Q Are those two tanks used to hold diesel fuel?

A For as long as I was in I have never used these. I don't know what they did previously.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 52

Q How many gas tanks are there on the TRADE DARING?

A Didn't we say before two side tanks?

Q I am asking about gas tanks. Gas-oil tanks.

A One. One gas-oil tank.

Q You are certain of that?

A Yes, I am.

Q What is the capacity of the port side tank?

THE INTERPRETER: He says I cannot tell you exactly. These things only the first engineer would know.

Q Is the port side tank of the same capacity as the starboard side tank?

A I don't know if there is a difference exactly. These things the first engineer would know exactly. He has the books.

Q Is it a practice on board the TRADE DARING to ever sound the oil in the side tanks?

THE INTERPRETER: Sir, what do you mean by sound?

MR. WAESCHE: Just ask him the question.

THE INTERPRETER: Well, I am not clear so I would have to--

MR. TUBLIN: Off the record.

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PLAINTIFF'S EXHIBIT 45
Bafaloukos 53

(Discussion off the record.)

A No, it is not.

Q How does one determine the amount of oil in the side tanks?

THE INTERPRETER: He says according to the space he sees. Thisis the first engineer's job, we do not get involved.

Q Do you personally know how many barrels of oil were in the port side tank prior to bunkering?

A I don't know. The first engineer would know that. He checks these things.

Q Have you ever seen anyone on the TRADE DARING take soundings in either the port or starboard side tanks?

A I have not.

Q Is there any gauge on either the port or starboard tank which will tell you the quantity of oil within the tank?

A I don't know of any gauge other than the fact that determining the--yes, there is one right next to it.

Q What type of gauge?

A It has a top and you drop down the lead weight.

THE INTERPRETER: This is how I under-

PLAINTIFF'S EXHIBIT 45
Bafaloukos 54

stood it.

A You are talking about the fuel now?

Q Yes, we are talking about the port and starboard side tanks which hold diesel fuel.

A No, the side tanks that contain the bunkering do not have a gauge. The gaug e I am talking to you about, only the tanks of the main engine down below, I guess, have. There is a gauge in the--there is a gauge in the boilers. That is the gauge. The side tanks do not have--

Q The gauge in the boilers is to gauge the fuel oils which you use to light the boilers, is that correct?

A That's correct.

Q And that particular gauge has nothing to do with your diesel fuel, does it?

A That's correct.

Q Where does oil which has accumulated in the side tanks first flow before it gets down to the main diesel?

A It goes to the settling tanks. Then it goes through a filtering process and goes from there to the day tanks.

Q Do you know the capacity of the port settling

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tank?

A I do not.

Q Do you know the capacity of the starboard settling tank?

A I don't know exactly. I imagine it is about the same. I am not sure.

Q You mean it's the same for the port settling tank as it is for the starboard settling tank?

THE INTERPRETER: About the same, he said.

Q Is there a--

A It's possible that it is the same.

Q Is there a gauge which will allow one to read the amount of fuel which is in the settling tanks?

A There are gauges.

Q What type of gauges?

A It is with a screw-in cap which you open and drop in the lead weight.

Q Is it customary on board the TRADE DARING to take soundings to determine the amount of oil in the settling tank?

A It is not. We don't need that.

Q Is there a valve between the port wing tank and the port settling tank?

PLAINTIFF'S EXHIBIT 45
Bafaloukos 57

form.

MR. WAESCHE: All right.

Q Is it customary on the TRADE DARING to keep the settling tanks full?

A Naturally because that is how it is drawn from there to go to the day tanks.

Q When you went on watch at midnight on the 18th were the settling tanks full?

A They were.

Q How do you know that?

A I know because the first engineer told me so and that we would not put oil in the settling tanks. Only in the side tanks and in the gas-oil, nowhere else.

Q Is it necessary to use a pump when transferring oil from the side tank to the settling tanks?

A Yes.

Q Does the settling tank have an overflow line?

A Yes, they do.

Q Is there a basin around the settling tanks?

A No.

Q Is there a basin around the side tanks?

A On the side tanks there are these--only on the left side there are these basins. Where the filters are, as we said before.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 58

Q Do I understand correctly that there is no basin on the starboard settling tank?

A No.

Q Is there a basin on the starboard side tank?

A No.

Q Is there a basin around both port and starboard settling tanks?

A No. There is a side tank basin which is only for the fuel when they want to remove water.

Q Well, let's get the record clear.

Is there any basin on either the port or starboard settling tanks?

A No.

Q Are there basins on both the port and starboard side tanks?

A No. On the right side there is nothing, on the left side there is the basin which has the filtering devices.

Q How does one get oil from the settling tank to the day tank?

A By means of a pump which goes through a-- takes it through a filtering process and takes it to the day tank.

Q Is there a valve in the fuel oil line between

PLAINTIFF'S EXHIBIT 45
Bafaloukos 59

the settling tanks and the day tanks?

A I don't know that.

Q Is it possible for oil to go from the settling tanks to the day tanks by gravity?

A We have never used this thing. I cannot really tell you. We have used it only by means of this DeLavalle.

Q Is there any gauge on the port day tank?

A There are indicators which show the level of the oil in both day tanks.

Q When you came on watch at midnight on the 18th did you check those indicators?

A Yes, of course, they were full.

Q And are you sure that both day tanks were full?

A No, they had a small margin. They were not full to the brim. We neverfill them to the brim.

Q Does the gauge tell you the amount of oil which were in the day tanks?

A Yes, it does.

Q And when you looked at the gauge how much oil was in the port day tank?

A I don't remember exactly to tell you.

Q Were they almost full?

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PLAINTIFF'S EXHIBIT 45
Bafaloukos 60

A Yes. It needed about this much to fill up one with the other (indicating).

Q Were you indicating with your hands the amount which it would need to fill up?

A Yes.

MR. WAESCHE: Would the record indicate or would you stipulate for the record that he was indicating with his hands a space of about two and a half feet?

MR. GERACE: Two, two and a half feet.

MR. TUBLIN: Something like that, yes. Yes.

A I can't tell you exactly. I didn't have a measuring device.

Q But it was about within two to two and a half feet from the top of the tanks, is that correct?

A About.

Q And that is true with respect to both the port tank and the starboard tank, is that not right?

A Yes. Yes, but they were not both at exactly the same level, one was a little less perhaps or a little more than the other.

Q Is there a basin around the starboard day tank?

PLAINTIFF'S EXHIBIT 45
Bafaloukos

A On both day tanks. So that we don't have a confusion, here on the left and right are the day tanks. They face the engine room, not the sea.

Q Is there an overflow line on both port and starboard day tanks?

A Yes, there is.

Q Where does the overflow line lead?

A In my opinion it goes down to the overflow.

Q Is it not a fact that the overflow line in the port and starboard day tanks has been blanked so that any overflow from those tanks goes into the basin?

THE INTERPRETER: Sir, by blanked do you mean stopped?

MR. WAESCHE: Yes.

A I didn't quite understand it. What do you mean by blanked?

Q Was not the line, and that is the overflow line, from the day tanks opened at a flange connection between the pipes?

A Yes, it was open. When it's getting filled it has to be moved out there. I am not sure, but I think the overflow that takes place, I am not sure whether it goes to the overflow of the side tanks, I am not certain. If this overflow goes to the same basins of the side tanks.

Q You don't know, do you?

THE INTERPRETER: "I am not sure," he said.

Q I again put it to you, is it not a fact that any overflow from the day tanks goes to the basin in the day tanks?

MR. TUBLIN: I will object to that because you have repeated the question and he answered it.

MR. WAESCHE: I am putting it to him again.

THE INTERPRETER: Would you repeat it, sir?

Q I again ask you if it is not a fact that any overflow from your day tanks goes directly into the basin surrounding the day tanks?

A Since it's over there, yes.

Q At any time--

A I am not sure, but where it winds up.

Q But initially the overflow goes into the basin, is that not so?

A Yes.

Q At any time during your watch, did you start the pump which fills the day tanks?

PLAINTIFF'S EXHIBIT 45
Bafaloukos 63

A No. That is to say the DeLavalle, as long as the tanks were full there was no reason to have it operate since they were full with oil. This usually is in operation when the vessel is at sea and there is consumption.

Q At any time from your arrival at Hess terminal until the fire, had you personally activated the pump which fills the day tanks?

A No, those were always filled. As long as the vessel was at dock we do not fill them. Those were always filled.

Q In other words, it was a custom on board the TRADE DARING to always have the day tanks filled, is that so?

A Yes, naturally because if they are not filled we cannot catch up with the consumption. We do not allow the level of the oil to go very far down.

Q What is the capacity of the gas-oil tanks?

A I don't know.

Q Is the gas-oil tank on the starboard or port side?

A It is on the starboard side.

Q Where is the fuel oil tank located?

A Which one?

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PLAINTIFF'S EXHIBIT 45
Bafaloukos 64

Q How many tanks do you have for bunker fuel?

A Do you mean fuel for the diesel also?

Q No, I mean fuel for your boilers.

A We have one side tank which is on the left side of the engine room and two more tanks which are underneath the first platform.

Q How does one get fuel into the gas-oil tank?

A I know that it is supplied only with the bunker oil.

Q Do you put the same type of oil in the gas-oil tank as you put in the side tanks?

A Yes, we do.

Q How do you get the oil into the gas-oil tank?

A There is a line which takes off from the main line that supplies the two side tanks and through a valve goes to the gas-oil tank.

Q Is it necessary to use a pump to fill the gas-oil tanks?

A No, I don't think so.

Q Is there only one line that supplies the fuel to the gas-oil tank?

A Yes, the line that is connected to the central line which supplies the side tanks is the one that supplies the gas-oil tank.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 65

Q How many valves are there between the main line which supplies the side tanks and the line as it enters the gas-oil tank?

A There is one valve on deck which is connected to the hose of the barge, this one here (indicating).

MR. WAESCHE: Pointing to the one on the picture which is marked Petitioner's Exhibit 1A for identification.

A Then in the engine room, and there is another central valve which continues to the branching out of the lines with individual valves.

Q The individual valves that you are now talking about are valves which control the flow to the starboard or the port side tanks, is that correct?

A Naturally, if we don't open those too the oil won't go into the side tanks. And then there is one more valve which goes exclusively to the gas-oil tank on the central line.

THE INTERPRETER: He asks whether you would like him to make a drawing for you.

MR. TUBLIN: Off the record.

(Discussion off the record.)

BY MR. WAESCHE:

Q At any time during your watch which commenced

PLAINTIFF'S EXHIBIT 45
Bafaloukos 73

Q Did you speak to the captain when the captain gave you the log?

A Yes, I asked him what happened inside the boat, what was burned because we went subsequently there. And then he told me that the rough engine room logbook was salvaged, for which I asked so that I might record in it the things that I had written on the scratch pad.

Q Did he give you any orders or directions at that time?

A What instructions?

Q Any whatsoever.

A He told me that the engine room was burned and also subsequently the accommodations. Because I didn't know exactly what damage had been caused to the boat because we had left.

Q Did the captain instruct you to make entries in the log?

A No, I asked for it.

Q What type of fire-fighting equipment was there in the engine room of the TRADE DARING?

A We had portable extinguishers which we were not able to use, we did not have the time to use.

Q Is there a CO_2 system in the engine room?

A There is a pump which we used for the

PLAINTIFF'S EXHIBIT 45
Bafaloukos 74

extinguishing of the fire, however, we did not get the time to use it.

THE INTERPRETER: He may have used the English word "emergency" with a Greek pronunciation which my ears did not catch. Emergency equipment.

Q By pump do you mean a pump which forces water through a hose?

A Yes, I do.

Q Is there a carbon dioxide system?

A It's possible, but I don't know. I never had occasion to use it.

Q When was the last time that you had fire and boat drill aboard that ship?

A When we left from Europe we engaged in such drill frequently and also at sea.

Q That does not answer my question, sir.

MR. TUBLIN: I will object to the statement unless you want to ask him another question.

MR. WAESCHE: I will repeat the question.

(The question was read.)

A At sea.

Q When?

A I don't remember exactly how many days after leaving Germany; seven, eight days after leaving.

PLAINTIFF'S EXHIBIT 45
Bafaloukos

Q What is the signal for fire drill aboard that ship?

A Do you mean the alarm?

Q Yes.

A YEs, there is an alarm which is handled from the bridge.

Q Are there a number of rings that are given on this alarm to signify fire drill?

A There might be, but I don't know what exactly. They ring the alarm and we are on standby.

Q What do you mean you are on standby?

A When the alarm goes off we are at our appointed places.

Q And what is your appointed places when the alarm goes off?

A Do you mean in case of fire or for the purpose of abandoning ship?

Q For the purpose of fire.

A We are at the pumps which are connected by a pipe system to water.

Q Who is "we"?

A The engine room personnel.

Q All of the engine room personnel?

A Naturally, we all have to take part in such

PLAINTIFF'S EXHIBIT 45
Safaloukos 76

action.

Q Are you all at this pump station?

A No, everyone has his place.

Q And what is your place?

A Down in the engine room functions a pump, a fire-fighting pump, which has certain branching out pipes for fire-fighting.

Q What instructions have you been given with respect to fire-fighting aboard that ship?

A Our instructions relate to the fire-fighting by means of water as well as with the use of fire extinguishers.

Q And specifically what instructions have you received with respect to fighting fire?

A To handle the portable fire extinguishers and to make use of the fire-fighting water pumps.

Q Anything else?

A No.

Q Is there any foam system for fighting fires on board the TRADE DARING?

A I don't know if there is one other such system.

Q When you do have fire drill are hoses actually run out and water placed through them?

A Yes, we are at the post, each one of us has to

PLAINTIFF'S EXHIBIT 45
Bafaloukos 82

make that entry, did he?

A How is that my fault? If he forgot it.

Q Would you read the entry which commences 0042 hours?

A "Instructions were given to the pump man of the barge to discontinue the bunkering of oil to the vessel."

Q How did you obtain the time 0042?

A I had my watch.

Q Your wristwatch?

A This one, yes.

Q Is there a clock in the engine room?

A Yes, of course.

Q Did you look at the clock in the engine room when you first came aboard?

A Of course. As a matter of habit I looked at it.

Q Did you synchronize your wristwatch with the clock in the engine room?

A I cannot tell you that there was complete synchronization. Some watches are half a minute forward or behind.

Q Would you read the entry which commences 0049?

A By means of the glass indicators in the engine room the overflow of diesel oil was observed from the side

PLAINTIFF'S EXHIBIT 45
Bafaloukos 83

tank. Do you want me to go ahead?

Q Is that the entire entry for 0049?

A There is more.

Q Read it, please.

A In overflow tanks with great pressure.

MR. WAESCHE: Is that it?

THE INTERPRETER: Yes, sir.

MR. WAESCHE: May I have it read back?

(The record was read.)

A In double bottom overflow tanks with great pressure.

Q What tank was overflowing?

A Both.

Q Isn't your entry singular?

A Both side tanks, my entry shows.

Q Is not your entry singular "tank"? As it's written?

MR. TUBLIN: I will object to the form of the question as being repetitive and argumentative.

Q You may answer.

A Two tanks.

Q How did you obtain the time 0049 for that entry?

A Since I went down to the engine room and looked

PLAINTIFF'S EXHIBIT 45
Bafaloukos 84

at the clock I knew.

Q Is your 0049 entry from the engine room clock?

A Yes, because as I was coming down into the engine room the wall clock is directly facing me.

Q Would you read your entry for 0050?

A "Instructions were again given to the b arge, to the Mobil barge to immediately cease bunkering diesel oil to the vessel."

Q How did you obtain the time 0050 for that entry?

A About. Could have been 50 and a half minutes. I ran upstairs. The time is approximate by a half minute.

Q Did you look at your wristwatch?

A No, at that moment I did not look at my own watch, because I didn't have time to look at my watch. If I knew this thing would take place it would be different.

Q Would you read your entry for 0051?

A "The second engineer closed in the engine room, the diesel oil bunkering valves."

Q What diesel oil bunkering valves did he close? If you know.

A As he told me, according to what he told me he

PLAINTIFF'S EXHIBIT 45
Bafaloukos

minutes after noticing an overflow from the side tanks, the main line entering the side tanks was closed, is that correct?

A Two minutes after he said? What do you mean?

Q Within two minutes after observing an overflow through the sight glass the main valve to the side tanks was closed, is that so?

A That is so.

Q Where did you observe the fuel oil running over the basin?

A On the left side, as I told you, where the filtering--the filters are, the oil was overflowing on the left, from the filter openings, I believe.

Q Have you seen a picture which shows you the basin?

I am going to place before you a photograph and I ask you if that shows you the basin in which you saw the oil overflow (handing to witness).

THE INTERPRETER: He says "I cannot find the little holes that are at the corners of the basin. There are four holes at each corner." This is the basin (indicating). These things in the middle of the filters.

MR. JULIANO: The man is trying to

PLAINTIFF'S EXHIBIT 45
Bafaloukos 87

explain something. He said this is the basin and these two things are the filters.

All right, go ahead.

THE INTERPRETER: The oil was coming from the space he indicated, not the filters themselves which are closed, he said. The picture is dark.

Q Well, I will show you another photograph and ask you if that depicts the basin from which you saw the oil overflow (handing to witness).

THE INTERPRETER: He says one cannot see the filters in this picture. He is pointing at the basin, that one cannot see the filters.

A Do you have another one, do you have any picture that shows the filters with the catch-all basin?

Q What filters are you referring to?

A Through these filters the oil passes, it is purified, filters before it goes to the burning process.

Q On what level was the basin located?

A On the third platform on the left, but slightly below the level of that platform one or two steps.

Q Were any pumps in operation in the engine room from the time you came on watch until the fire started?

A Yes, there were.

PLAINTIFF'S EXHIBIT 45
Bafaloukos 90

diesel engines subjected to maintenance and service?

A That would be an answer the first engineer would know because he checks the hours.

Q How many double bottom overflow tanks are there in the engine room?

A There are two overflow tanks for the diesel and one for the fuel boiler.

Q Is it customary on board the TRADE DARING to sound the overflow double bottom tanks?

A Yes, we customarily measure the quantity of oil.

Q Do you try and keep the overflow tanks dry?

A Yes, of course.

Q Do you know whether when you came on watch the overflow tanks were dry?

A Yes, the second engineer had pumped them out, drawn them out, meaning that if they had had a little oil the second engineer had removed it, any oil from previous bunkering.

Q When did the second engineer do this?

A I was not present when he did that. To be sure before we did the bunkering, possibly quite a number of days before.

Q Did you personally check the overflow double

PLAINTIFF'S EXHIBIT 45
Bafaloukos 91

bottom tanks at any time during your watch on March 18th?

A No, I did not.

Q Who made the entry in the engine room log commencing with 0053 hours?

A The first engineer.

Q Did you see him write that entry?

A I did not.

Q Do you know how he obtained the information which allowed him to make that entry?

A He didn't tell me anything.

Q Did you tell him anything?

A What should I tell him?

Q I have to repeat the question. Did you tell him anything?

A No, except that I told him that I had made my notes into the log.

Q You didn't tell the chief anything about the fire itself?

A Where? Outside? On the boat?

Q Any place. Anytime.

A On the vessel itself when we were about to abandon the vessel the--abandon the engine room, I rushed to the chief engineer's room and shouted, fire,

PLAINTIFF'S EXHIBIT 45
Bafaloukos 94

Q This began with a whoosh as you described it, is that right?

THE INTERPRETER: Poof was his sound.

Q Did you smell diesel fumes throughout the engine room prior to the fire?

A I am not certain. It must be but I am not certain. I had no time to think it happened so instantaneously.

Q Do you customarly smell diesel fumes in that engine room?

A Naturally, to be sure in an engine room one would always find fumes from a diesel engine, from the oil and from other sources. As long as there is petroleum you will find that.

Q Where were you in the engine room when you observed the overflow of oil from the basin?

A As I was coming down the staircase the oil was already falling but not as much as it did when I finally got down.

Q Where were you when you saw the oil overflowing from the basin?

A I was coming down the ladder of the first platform and proceeded toward the electrical generator.

Q How many ladders do you have to descend before

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PLAINTIFF'S EXHIBIT 45
Bafaloukos 95

you reach the lower level of the engine room?

A From what point?

Q From the main deck.

A Three ladders.

Q On which of the three ladders were you when you observed the oil overflowing from the basin?

A On the first platform near the basin.

Q Do you mean after you descended the first ladder from the main deck?

A Yes, I do. That is the third platform from the bottom.

Q From what side of the vessel did you start descending the ladder?

A I entered through the righthand corridor, passed through the inter-platform bridge and went down through the left staircase which was the easiest way for me.

Q Where on the ladder were you when you first saw the oil overflowing from this basin?

A When I came back from the deck I proceeded to the third platform toward the direction where the second engineer was.

Q Had you reached the third platform by the time you saw the oil overflowing from the basin?

PLAINTIFF'S EXHIBIT 45
Bafaloukos 96

A Yes, because from any other vantage point I couldn't have seen it.

Q Where was the second engineer at this time?

A At that moment he was shutting off the left side tank. He had already turned it off.

Q Where was he?

A He was on the left side next to the basins.

Q The second engineer was standing close to the basin that you saw overflowing? Is that your answer?

A Yes, I do say that.

Q Was the second engineer standing on the third platform?

A That's right. Of course.

Q Was the basin also on the third platform level?

A Yes, that's correct, but as we said, the basin is one or two steps lower than the level of the third platform.

MR. WAESCHE: I have no further questions.

BY MR. TUBLIN:

Q Mr. Bafaloukos, could you identify this photograph (handing to witness)?

A This is the No. 3 electrical generator.

occasion to bunker your ship?

A Of course.

Q On the TRADE DARING how many times did you have occasion to do so?

A For me this was the third time.

Q Prior to going on board the TRADE DARING and during the time that you sailed as a third engineer did you have occasion to bunker vessels you were on?

A Many times.

Q Were there any identification marks or writings located on the lines or valves in the engine room?

A Yes, naturally there were. However, most of them were in German.

Q Were there any in Greek?

A No.

Q Were there any in English?

A Very few.

MR.TUBLIN: No further questions.

MR. WAESCHE: I have no further questions.

(Time noted: 5:10 p.m.)

PLAINTIFF'S EXHIBIT 46. 3

J A C Q U E S A. C A S E, called as the official interpreter in this matter, was duly sworn by the Notary Public (C. A. Michaelini) to accurately and faithfully translate the questions propounded to the witness from English into Greek and the answers given by the witness from Greek into English.

oOo

G I K A S A R S E N I K O S, called as a witness by the petitioner, being first duly sworn by the Notary Public (C. A. Michaelini), testified (through the interpreter) as follows:

EXAMINATION BY MR. TUBLIN:

Q Will you please state your full name and home address?

A Gikas Arsenikos, Island of Sikinos, Cyclades Islands, Greece.

Q How old are you?

A 24.

Q What is your occupation?

A I am a motor man. Motor Man B, or second class.

Q How long have you been going to sea?

PLAINTIFF'S EXHIBIT 46
Arsenikos 4

A November 16, 1970. Since November 16, 1970.

Q What was your last employment?

THE INTERPRETER: "I didn't understand you,"he said.

A On the boat you mean?

MR. TUBLIN: Shall I rephrase the question to make it easier?

THE INTERPRETER: He didn't understand "when were you last employed."

Q On what vessel were you last employed?

A TRADE DARING was my last vessel.

Q When did you first join the TRADE DARING?

A November 16, 1970.

Q When did you leave the vessel?

A March 18, 1971.

Q What was your position on board the TRADE DARING?

A My position was motor man second class.

Q Were you assigned to any particular watch on the ship?

A Yes, I was.

Q What was your responsibility as a motor man on the watch on the TRADE DARING? Or your duties.

A The greasing of engines. Their maintenance,

PLAINTIFF'S EXHIBIT 46
Arsenikos 10

A Six.

Q Were you given any instructions by the engineers of the TRADE DARING when you joined that vessel?

A Yes.

Q What instructions were you given?

A With reference to the engine room.

Q What were you told?

A My job is this, to watch over the equipment, temperatures and whatever else I told you.

Q Were you ever on the main deck of the TRADE DARING during the night of March 17-18, 1971?

A I didn't understand you.

Q Do you know what a main deck of a ship is?

A The whole boat. All the boat.

Q During the night of March 17-18th were you ever on the deck which is between the forward and after accommodations?

A No, I was not.

Q When was the last time that you held fire and boat drill on the TRADE DARING?

A After leaving Europe, maybe five, six days later; I don't remember exactly.

Q What is your station on fire drill?

PLAINTIFF'S EXHIBIT 46
Arsenikos 11

A I wore my life jacket and went to the engine room to see what's happening.

Q Were you instructed to go to a specific place in the engine room when fire drill was sounded?

A Yes.

Q Where were you to go in the engine room for fire drill?

A Down by the engine.

Q What were you instructed to do when you reached your position down by the engine?

A When we got to America?

Q During fire drill.

A They told us various things what we must do, to get hold of a fire extinguisher in case there is a fire.

Q What else were you told to do?

A And fire pumps for the water.

Q Did the TRADE DARING have a foam fire extinguishing system?

A With foam the fire extinguishers.

Q What were the size of the fire extinguishers?

A The individual ones are this big (indicating).

THE INTERPRETER: Pointing to a height of two feet.

PLAINTIFF'S EXHIBIT 46
Arsenikos

A The big one I don't know. The small ones have--

THE INTERPRETER: The word he used is powder.

Q How does one release the material that is in the large cylinder?

A It has a valve.

Q Is the large cylinder portable?

A No, it is not.

Q Is there a hose attached to the large cylinder?

A A rubber hose.

Q Do you know when the large cylinder was last checked to determine its contents?

A I don't know exactly when.

Q Was it ever checked to determine its contents while you were aboard the ship?

A If I looked at it? Who might have looked at it?

Q Anyone.

A I don't know.

Q What was the length of the hose that was affixed to the large cylinder?

A I don't know.

Q What is the signal given on the vessel for fire

PLAINTIFF'S EXHIBIT 46
Arsenikos

drill?

A An alarm is sounded.

Q What is the signal given for abandon ship?

A I don't know.

Q Will you describe the signal which is given for fire drill?

A I don't know of anything other than the fact that an alarm goes off.

Q When was the last time that there was an abandon ship drill on the TRADE DARING?

A We have not had that.

Q You have never had an abandon ship drill from the time that you boarded the ship until the fire?

A Not as long as I was on the boat.

THE INTERPRETER: May I say something off the record?

MR. WAESCHE: Yes.

(Discussion off the record.)

Q Where are the chief engineer's quarters located on the TRADE DARING?

A Above, quite high.

Q In what part of the ship?

A In the rear accommodations.

Q Do all of the engine room officers live in the

rear portion of the ship?

A Yes.

Q Who ordered you to abandon the ship after the fire?

A I heard of no orders for that. I saw other people abandoning the ship and I went too.

Q Did the ship sound an alarm after the fire?

A After the fire? No.

Q Did you see the third engineer, Mr. Bafaloukos when you first went on watch at midnight March 17-18?

A Yes, I did.

Q Where was Mr. Bafaloukos at that time?

A He was on the third platform.

Q At any time during your watch the evening of the 18th, did you again see Mr. Bafaloukos?

A Of course.

Q Did Mr. Bafaloukos remain in the engine room throughout your watch?

A No.

Q How long did he remain in the engine room after midnight?

A A short time.

Q Do you know where he went when he left the engine room?

PLAINTIFF'S EXHIBIT 47. 3

J A C Q U E S A. C A S E, called as the official interpreter in this matter, was previously sworn by the Notary Public (C. A. Michaelini) to accurately and faithfully translate the questions propounded to the witness from English into Greek and the answers given by the witness from Greek into English.

oOo

A N D R E A S S P E T S I O T I S, called as a witness by the petitioner, being first duly sworn by the Notary Public (C. A. Michaelini), and stating his residence as 9 Sipilou Street, Hymettus, Athens, Greece, testified (through the interpreter) as follows:

EXAMINATION BY MR. TUBLIN:

Q Would you please state your full name and address?

A Andreas Spetsiotis, 9 Sipilou Street, Hymettus, Athens, Greece.

Q How old are you?

A 30.

Q What is your occupation?

A I am a seaman and an engineer in boats.

Q How long have you been a seaman?

PLAINTIFF'S EXHIBIT 47
Spesiotis 4

A Nine years now.

Q How long were you an engineer on ships?

A Two years as a (Greek) which means on a trial basis.

THE INTERPRETER: The word means that he is on a trial basis.

MR. TUBLIN: Do you mean an apprentice?

THE INTERPRETER: Apprentice. Apprentice. engineer for two years.

A Six years as third engineer and one year as second engineer in boats that have diesel engines.

Q What was the last ship you were employed on?

A On the TRADE DARING.

Q When did you leave the TRADE DARING?

A On the 18th of March 1971.

Q When were you first employed on the TRADE DARING?

A On the 23rd of January in Stockholm.

Q What was your position on the TRADE DARING?

A Second engineer.

Q Were you in charge of any watch?

A I had the watch 0408.

Q In the early morning hours of March 18, 1971 where was the TRADE DARING?

PLAINTIFF'S EXHIBIT 47
Spetsiotis 6

A Theodoros Bafaloukos. I asked him what was happening and he answered me that he had given instructions to stop the oil and he was under the impression that they had stopped the flow of oil.

Q Did he say--

MR. WAESCHE: Wait a minute. Let him finish his answer. He was just saying something else.

A The third engineer going down to the engine room saw that the oil bunkering was continuing.

MR. TUBLIN: The witness has indicated the expression "they" in his answer. Can he identify or can he tell us whether the third engineer had identified who they were that had been ordered to stop bunkering?

A The third engineer, he told me, he is the one I meant, that he had given instructions that the oil be stopped, the bunkering, but the oil kept coming with great pressure.

Q Did the third engineer tell you to whom he had given instructions to stop the oil bunkering?

A The only thing that he told me was that I had given instructions, quoting the third engineer, to stop the bunkering but it kept on going, kept on coming.

PLAINTIFF'S EXHIBIT 47
Spetsiotis 7

Q Then what happened?

MR. WAESCHE: I will move that this be stricken as hearsay but, go ahead.

A Then I went down to the first inter-platform bridge and saw for myself that the glass indicators of the side tanks showed the oil rushing with great pressure to the overflow tanks.

Q How many glass indicators did you look into?

A The right side tank one and the left side tank one.

Q What did you see when you looked into the glass indicators for both of these side tanks?

A I noticed that the oil was coming with great pressure. I immediately ran from the right side of the engine room and climbed to the third inter-platform bridge.

Q On what piping system were these two glass indicators located?

A The glass indicators are on the side tanks and go down to the overflow tanks.

Q Are they on the tanks themselves or are they on pipelines?

A Each side tank has its own line and on the right and left and that's where the glass indicators are.

PLAINTIFF'S EXHIBIT 47
Spetsiotis 8

Q How many levels or platforms are there in the engine room?

A Three.

Q On what level of the engine room are the glass indicators that you had looked into?

A On the first from the bottom.

Q What did you do after you saw liquid passing through the glass indicators?

A I quickly ran up to the--ran up the righthand side staircase to the third inter-platform bridge. On this right side there is a central valve through which the oil is received. And near it is the individual one of the right side tank.

Q What did you do?

A I closed the central valve to isolate the oil overflow even if the pipe burst.

Q Which valve was that that you closed first?

A The central through which the bunkering goes. And I also turned off the individual one of the righthand side tank which is very, very near it.

Q What function does the first valve that you closed perform?

A The first central valve is a general valve through which is distributed the oil through lines and

room?

A The central valve.

Q Is that the valve you were referring to that you closed first?

A Yes, it was.

Q After you closed the central valve then what did you do?

A At the same time I was also closing because it is right next to it there, the righthand side tank.

Q Now, what did you do to close the righthand side tank?

A I closed the individual valve.

Q What valve did you close for the starboard side tank?

A The individual valve of the side tank which is very near the central valve of the intake valve.

Q Is that connected to the central intake valve?

A Yes, it is.

Q Then what did you do after that?

A As I was leaving heading for the left side tank, I didn't go in the end, I heard the phone ring.

MR. TUBLIN: Did he say side tank or did he say side tank valve?

PLAINTIFF'S EXHIBIT 47
Spetsiotis 12

A I was headed to close the valve of the left side tank. But then the phone rang.

Q On what level of the engine room is the central valve and the valve for the starboard side tank located?

A The valves, the central, the right and left ones are on the third platform. The only difference is that the one is on the right extreme side and the other is on the left extreme side.

Q Which valves are on the extreme righthand side and which valves are on the extreme lefthand side?

A The individual valve of the lefthand side tank is on the lefthand side tank.

Q Where is the central valve and where is the valve for the starboard side tank located?

A On the third platform of the engine room on the right side.

Q When you heard the telephone ring, what did you do?

A I went down to the phone and it was the captain, and he asked me if we were ready to depart.

Q Where is the telephone located?

A left center of the first platform down in the engine room.

Q What did you do after that?

PLAINTIFF'S EXHIBIT 47
Spetsiotis 13

A I answered him that we would be ready 15 minutes later, because there was an irregularity with respect to the bunkering.

Q Then what happened?

A I went up the left staircase to the third platform to turn off the valve of the left side tank. At that moment I noticed that on the left side there is a space.

THE INTERPRETER: He said (Greek) that means three by three, we have to clarify whether he means meters or feet.

Q All right. Would you ask him?

A Meters there are located the central oil filters of the main engine, and with the filtering of the oil there are three scuppers which wind up to the overflow, double bottom overflow. That entire space had been filled with oil and through the scuppers the oil was bubbling. Diesel oil.

Q Then what happened?

A I stepped on the lines so as not to step on the oil and turned off the left side tank valve. At that moment came also third engineer Theodoros Bafaloukos.

Q Then what happened?

PLAINTIFF'S EXHIBIT 47
Spetsiotis 14

A He also watched for the oil. Then at that moment I saw that the oil was overflowing over the lip that there is there.

Q What was the lip of that it was overflowing? What was the lip that you referred to as overflowing?

A That is called the basin, it has a raised portion about one foot. That had been filled and the oil was overflowing and falling down to generator No. 3.

Q Then what happened?

A Immediately ordered the third engineer to run and put a raincoat onto the electrical generator and then rushed to the electrification panel to isolate the-- to switch off the No. 3 electrical generator and so that its load would be transferred to the other two generators.

Q When you gave the instructions to the third engineer, what did the third engineer do?

A We went down together running down the staircase, the third engineer went to the No. 1 platform and I stayed on to the No. 2 platform in order to cut off the electricity on the left side of the vessel.

Q What did you do then?

A Then after cutting off the current I went down the staircase, and before I went down the staircase

PLAINTIFF'S EXHIBIT 47
Spetsiotis 15

I shouted out to the third engineer to stop the No. 3 generator. I watched the third engineer as he stopped before I actually stepped onto the lower inter-platform bridge.

I also noticed that at that point the oil was coming through with great pressure.

Q When you say coming through, coming through what?

A It was coming from the open space from above from the third platform from the scuppers, and it was falling onto the electrical generator in its entirety. At the moment the third engineer stopped the third electrical generator, automatically a fire manifested itself on the entire generator and all around it.

Q Could you tell us what part of the generator the fire started?

A Exactly at what part, I noticed that the fire manifested itself on the generator, not on the generator itself--not on the diesel but only on the generator itself. On the motor.

Q Are you referring to an electric motor or a diesel motor?

A The motor that produces the current.

Q Then what happened?

PLAINTIFF'S EXHIBIT 47
Spetsiotis 16

A At that moment was present also the third engineer there and the apprentice engineer, the greaser. I shouted out that we should all get each a fire extinguisher. I ran and grabbed a fire extinguisher. Before I got a chance to use it I noticed that the fire had acquired gigantic and rapid proportions. It started climbing upwards into the area which had the oil and to spread throughout the engine room.

It happened instantly and the engine room was filled with smoke and the fire was coming toward us and it burned my hair.

THE INTERPRETER: Pointing to various parts of his face.

A I realized that there was nothing we could do with the fire extinguishers and that we ourselves would get burned.

Immediately I ordered the third and the apprentice to climb up and wake up those who were asleep.

Q Then what did you do?

A The apprentice engineer got up and got out to awaken the others. I go up, shut the doors of the engine room and I go up to the panel and turn off the fans of the engine room. I could not do that from the local switches in the engine room because at that

PLAINTIFF'S EXHIBIT 47
Spetsiotis 17

particular spot the fire had already manifested itself.

Q Why did you shut the fans to the engine room?

A So as to prevent more oxygen from reaching the fire location, that is to isolate the oxygen from the fire.

Q Then what happened?

A Then in turn I climbed with the third engineer up and we closed up the skylights and those smaller portholes.

Q Then what happened?

A The fire had so rapidly spread that by the time I reached the skylights the fire had already reached the skylights and it was shooting out of them. Following that afer closing the windows there was a blackout.

Q Then what happened?

A I went down from the outside and I attempted to turn on the emergency electrical generator to use in connection with putting out the fire.

Q Then what happened?

A Because of the fact that it was dark and the smoke and fire had enveloped all, or much of the boat, there was nothing I could do.

Q Then what did you do?

PLAINTIFF'S EXHIBIT 47
Spetsiotis 18

A Next I noticed that the personnel of the ship had gotten out of the cabins and were on the deck and I became concerned that there might be an explosion in the tanks of the vessel.

I went down from the pilot's staircase, ladder down to the dock. I left, it should be noted, I took nothing with me except for the clothes, the work clothes I was wearing. All the things in our rooms were burned.

MR. TUBLIN: That's all the questions I have at this time.

MR. WAESCHE: Off the record.

(Discussion off the record.)

EXAMINATION BY MR. WAESCHE:

Q Mr. Spetsiotis, how many tanks are there on the TRADE DARING which are used to contain diesel oil?

A We have the side tanks, right and left, we have the settling tanks,right and left, the day tanks--

Q Also right and left?

A Yes, also. As well as the double bottom overflow tanks which are used for the diesel oil when there is a little bit of overflow.

Q Do you also use a gas-oil tank to contain diesel oil?

PLAINTIFF'S EXHIBIT 47
Spetsiotis 19

A We used the gas oil tank for diesel oil but not gas oil.

Q How many gas oil tanks are there?

A One. One on the right side.

Q Is it not a fact that there are also two gas oil tanks on the port side?

A There are two generator day tanks, small ones.

Q Do you use the generator day tanks to hold diesel oil?

A Yes, we do.

Q Do you know the capacity of the starboard side side tank? Yes or no.

A Yes.

Q What is the capacity?

A In the right or left one?

Q The right.

A The right one approximately, based on the plans, takes about 250, and the left one 200. About.

Q 250 what?

A Long tons. These facts are in the hands of the first engineer, however, I happen to know them from observing the plan.

Q What is the capacity of the port settling

PLAINTIFF'S EXHIBIT 47
Spetsiotis 20

tank?

A I don't remember exactly.

Q What is the capacity of the starboard settling tank?

A Not at all in the settling. I don't remember at all.

Q What is the capacity of the port day tank?

A The generator day tank you mean?

Q No, the main engine day tank.

A This information the first engineer should really have. I don't remember exactly. However, they are supposed to keep the main engine operating for 24 hours, so for each one there should be about 30 tons each. I am not certain about anything with respect to that.

Q What is the capacity of the gas oil tank?

A About 50 tons.

Q What is the capacity of the gas oil day tanks?

A I don't know.

Q Is there an overflow line from the starboard side tank which leads from that tank into the double bottom?

A Yes.

Q Is there a similar overflow line for the

starboard side side tank?

A Yes.

Q Is there an overflow line for the starboard side settling tank?

A Yes.

Q Does that overflow line also go into the double bottom?

A Yes.

Q Is there an overflow line from the port side settling tank?

A Yes.

Q Also into the double bottom?

A Yes.

Q Is there an overflow line from the starboard side day tank, for the main engine?

A There are for the day tanks of the main engine for overflow which falls onto a basin next to the tank and then winds up down--there is no, however, glass indicator there. It is there and it falls down and winds up to the double bottom tank.

Q Initially was there an overflow line from your day tanks which went directly into the double bottom?

MR. TUBLIN: I am going to object to the form of the question. Initially when? I think

you have to place that in some sort of time reference.

MR. WAESCHE: The question is all right by me.

MR. TUBLIN: Objection as to form.

THE INTERPRETER: Would you repeat the question for me?

MR. TUBLIN: To be more specific on my objection, do you mean the original construction?

MR. WAESCHE: I do.

(The question was read.)

A I don't know whether there was one when the boat was built or not. This is how I found it. We made no changes, no structural changes as long as I was in there.

Q Since you have been on the vessel is it a fact that the overflow line from the day tanks went into the basin at the bottom of the day tanks?

A Which basin do you mean?

THE INTERPRETER: He says "Let's not confuse the basins. Not those basins."

Q I am talking about the basin which you observed shortly after you came on watch being filled with oil.

A No, it does not wind up there. It is a different one.

PLAINTIFF'S EXHIBIT 47
Spetsiotis 23

Q What basin does it fill, or what basin does it lead into?

A As we visualize the day tanks, there are attached to the day tanks a barrel-like basin from which we remove the water from the day tanks and they fall into it and they overflow, if it's filled. And in turn from below is the line which winds up connecting to the central one and to the overflow of the double bottom tank.

Q Does the barrel-type basin lead into the basin which you saw oil flowing out of?

MR. TUBLIN: I will object. He said he didn't see it flowing out of a basin, it was out of a scupper. So there is an objection.

Q Flowing over, if you will. I will rephrase the question.

Does the barrel-like basin lead into the basin from which you observed oil flowing over, or, overflowing?

A The line that leads from the barrel-like basin, catch-all basin, goes down to the central line and the oil that comes from the other basin I described earlier also leads, or goes to the same spot.

Q Is the basin from which you observed oil overflowing located below the barrel-type basin?

PLAINTIFF'S EXHIBIT 47
Spetsiotis 24

A It's on the same platform area, but it is farther on the left side.

Q Is it also below?

A It is lower.

Q Is there an overflow line from the starboard gas oil tank?

A Yes.

Q Does that overflow line lead into the double bottoms?

A This line, which has a glass indicator, goes directly to the double bottom tank.

Q Is there an overflow line from the gas oil day tank?

A Of the generator?

Q Yes.

A Yes, there is.

Q Does that also lead into the double bottom?

A Yes, it does.

Q Are there sight oil glasses on the lower level of the engine room for the overflow lines from the gas oil day tanks?

A No.

Q Is there a sight oil glass for the overflow from the gas oil settling tank?

PLAINTIFF'S EXHIBIT 47
Spetsiotis 28

Q Is there an inclinometer in the engine room?

A No. There is an electrical inclinometer but it is functioning when the boat is at sea.

Q Who awakened you at approximately 0030 on the 18th?

A The third engineer Theodoros Bafaloukos.

Q When you saw Mr. Bafaloukos running up the ladder, did Mr. Bafaloukos tell you to shut off the main valve.

A No, Bafaloukos, I asked him what's happening.

Q The question can be answered yes or no.

A No.

Q Did he or did he not?

A No.

Q Where were you when you descended to the lower level of the engine room when you first came on watch?

MR. TUBLIN: I will object to the form of that. He didn't testify in that manner. That wasn't his testimony.

Q After you had a conversation with Mr. Bafaloukos where did you go?

A I went down to the bottom, the lowest platform to look at the sight glasses, the glass indicators, to see for myself whether the oil was overflowing as he had

off--on the third platform--in order to turn off the central valve, the intake valve.

Q Did you run up the ladder?

A With great speed.

Q As you were running up the ladder, did you notice the oil overflowing from the basin?

A No, because I was climbing up the righthand staircase whereas the overflowing oil is on the left side.

Q What did you do after you turned the main valve?

A As I closed the central valve I also turned off the very approximate side tank valve.

Q What did you do then?

A I checked the gas oil tank valve and it was turned off.

Q What did you do then?

A I started to go left, but I didn't complete my movement because I heard the phone.

Q If you turn the main valve is it possible for oil to get into the gas oil tank?

A Not as longas the individual gas oil tank valve is closed.

Q If you turn off the main valve, is it possible

A No, at the office.

Q Who was at the office?

A Mr. Kalimanopoulos himself.

Q Anyone else?

A That day I, the first engineer and Mr. Kalimanopoulos.

Q Anyone else?

A No one else.

Q Did you discuss the events which took place on the night of March 18th with anyone else except Mr. Kalimanopoulos and the master?

A No.

Q Are you sure of that?

A Yes, of course.

Q You haven't spoken to Mr. Tublin about the events which occurred on the 18th?

THE WITNESS: Yes, Mr. Tublin, yes.

A Yes, of course, Mr. Tublin I have.

Q When did you discuss the events which transpired on March 18th with Mr. Tublin?

A About two weeks ago we came here one day. I don't remember the exact date.

Q Did Mr. Kalimanopoulos take any notes of your discussion?

A No, he did not.

Q Have you given any written statement about the events which occurred on the 18th?

A Written statement? No, none.

Q Are you sure?

A Yes, I am sure.

Q You weren't asked to sign any paper?

A Yes. I signed a paper which was a report which we made to the captain.

Q Did you sign any other papers?

A No, I did not.

Q Do you hold any licenses issued by the Greek Ministry of Merchant Marine?

A Yes, I do.

Q What license?

A I have the diploma, in quotes, of the first and second motor man as well as many years of service on Greek boats.

Q Do you hold a license as a third engineer?

A No, I do not have yet a third engineer's license. I have only so far the first and second motor man license. I have considerable service in my seaman's papers indicated and I can--am entitled to take such a license.

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Q Do you know whether Mr. Mahail Mahail was issued an engineer's license by the Greek Government?

A I don't know.

Q Do you have any relatives in the United States?

A I have some relatives whom I have never seen. They are very far away. I have never communicated with them. I don't even know their address.

Q How many times have you been aboard a ship which entered a U. S. port?

A Many times.

Q Do you ever stay with friends when you are in New York?

A No.

Q What type of fire-fighting systems are there on the TRADE DARING?

A Throughout the vessel or only in the engine room?

Q In the engine room.

A In the engine room, outside the engine room, there is a space which contains a diesel electrical generator, and the electricity it generates sets in motion another piece of equipment which functions on a centrifugal basis. This pump sucks in sea water

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and it has a connection through which you pour a certain liquid with which it is mixed, and this thing becomes foamy and--becomes a foam and spreads through the engine room in various parts of the engine room. In the boiler room there is a steam line at the bilges. At the bilges of the boiler room. There is no steam system in the engine room itself.

Q Where is the chemical which you pour into the receptacle for the foam system kept on board the TRADE DARING?

A It is in the same space where the emergency generator is, and near the fire pump.

Q Where is the emergency generator located?

A It is outside the engine room, it is between the pump room and the engine room. Near the accommodation. It does not connect, but it is in between.

Q At what level is this emergency generator?

THE INTERPRETER: Do you mean platform?

MR. WAESCHE: Platform.

A The generator, the emergency generator is outside the engine room at the same level as the deck.

Q Same level as the main deck?

A Inside the aft accommodation.

Q Is everyone in the engine room department

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assigned a specific place to go during fire drill?

A Of course.

Q Who is assigned to go to the emergency generator during fire and boat drill?

A Engineer No. 2. Second engineer.

Q How is the system activated?

A It has a diesel engine which diesel puts into motion a current generating--generator. It has a panel. You switch on the current which will be produced by the generator and a rheostat which moves the motor of the fire pump.

Q Did you attempt to start the emergency diesel after the fire?

A I wanted to and went but the smoke, heat and darkness caused me not to. After isolating the fans and the other activity I went to turn on the skylights, I went to turn on the emergency generator, but I stopped.

Q When had you last activated the emergency diesel?

A After leaving Germany, Antwerp, I turned on the emergency generator without turning on the pump itself, as well as the lifeboat generators because from time to time they have to be operated.

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Q Was this during a fire drill?

A That is exactly when I did it, but without connecting the pumps.

Q Was this also during a boat drill?

A When there was a boat drill?

Q Was there a boat drill when you had the fire drill?

A Do you mean on the 18th of March when the boat was abandoned?

Q No, I mean when you activated, last activated the emergency generator, or emergency diesel.

THE INTERPRETER: I am sorry, but I am not clear on your question.

Can you rephrase it?

Q Was there a boat drill when you last energized the emergency diesel?

A Only a fire drill.

Q Why didn't you go to your fire station immediately after the outbreak of the fire on March 18th?

MR. TUBLIN: I will object to the question as being argumenative.

A Because the first job as far as I have been taught and know is to stop the flow of oxygen into the

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engine room. Since with the portable fire extinguishers you cannot do something, and considering the fact that the fire was a large one and very instant and the lights went off we did not have time to get there. And because of the smoke and the stench we could not breathe.

Q How long after the fire broke out did the lights go out?

A The fire manifested itself at about 0052, 0053 I abandoned the engine room itself and that was the time I was closing the skylights and ventilators. I told the gentleman thatthe fire and heat was so intense and large and there was so much gas that there was little or nothing that I could do other than what I did.

MR. WAESCHE: I would like the question repeated.

(The question was read.)

A Two minutes. The entire left side primarily was quickly, instantly enveloped in fire. Perhaps because the vessel had been unloaded it is possible that this caused a greater quantity of gas to be around.

Q I am going to place before you a diagram and ask you if that diagram accurately portrays the overflow

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line from a side tank to the double bottom tank and a vent line from the double bottom tank to decks--

MR. TUBLIN: I would like to get an objection in here to the question when it is completed so I can have my objection noted before the question is posed to the witness.

MR. WAESCHE: That's rather unusual but--

MR. TUBLIN: Because there is going to be one as to form. But why don't you complete your question and then you can break down the translation later?

Q I have placed before you a diagram and I ask you if that diagram accurately portrays an overflow from a side tank to the double bottom tank as it was on March 18th on the TRADE DARING.

MR. TUBLIN: Now as to my objection. I am objecting as to form since presented to the witness is a hand-drawn sketch on a yellow sheet of paper which is not represented as being drawn to scale--

MR. WAESCHE: Absolutely.

MR. TUBLIN: --and is indicated to be an accurate representation. And I think the question

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is improper as to form in view of the sketch being presented and there is no representation as to who drew it and any other indication. But go ahead.

MR. WAESCHE: Obviously, Mr. Tublin, the diagram is not meant to be to scale. It is not meant to be exact. It is meant to merely be a schematic representation of a system.

MR. TUBLIN: I think you should withdraw the word "accurate" too from your question.

MR. JULIANO: Let the judge rule on it.

MR. GERACE: Why don't we have the interpreter tell the witness what you just said.

(The record was read.)

Q Now, sir, does the diagram--

MR. WAESCHE: Strike that.

MR. TUBLIN: I would also add one other thing.

There are certain writings on the diagram that should be identified.

MR. WAESCHE: Very well.

Q Does the side tank of the TRADE DARING have an overflow line from the tank to the double bottom as

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depicted upon this drawing?

MR. TUBLIN: I still have an objection because there are writings. Are you also including the writings on that diagram? They are in English script.

Q You may answer.

A Yes, it is roughly vertical starting from either the left or the right side and it winds up to this sight glass and then continues on to the double bottom, approximately. This is,however,not accurate.

Q But it does depict the same type of system, does it not?

MR. TUBLIN: I will object to the form.

A Yes.

Q I am going to underline the words "overflow line."

By the way, can you read the English writing on the diagram?

THE INTERPRETER: He says here the Greek word is side glass.

A In upper case I can read that much better.

Q But can you read what is written on that diagram that is before you?

A If you wrote it in upper case letters I

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probably could. The way it is now, not really. Over here it says side tank (indicating).

Q Where does it say side tank?

A Here it says tank (indicating).

Q On the TRADE DARING--

THE WITNESS: Double. Double bottom overflow.

A Double bottom overflow tank, it says here. On the sight glasses there were written in upper case letter the words "side tank" and so on, in English. And there was no case for us to mix them up.

Q On the TRADE DARING is there a basin similar to the one depicted on the diagram around the side tank?

A If you suppose that this is the left side tank (indicating), and that this side--

THE INTERPRETER: Pointing to the side nearest him.

A --is toward the engine room, there is a basin which has the filters in the middle of the diesel oil engine, the main engine, the day tank diesel oil of the generator and there is a scupper here, a scupper there and one there (indicating), which winds up--

THE INTERPRETER: He pointed.

A And goes down to the double bottom.

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Q So that there are then three scuppers coming off the basin in the port side tank which also leads down to the double bottom, is that correct?

MR. TUBLIN: I will object to that.

MR. GERACE: I object to the side tank.

MR. TUBLIN: Let me get my objection on the record first. Are you asking the question or reiterating the statement from him?

MR. WAESCHE: I am asking him if my statement is correct.

MR. TUBLIN: Well, I will object to the form because that isn't what he said.

MR. WAESCHE: Would you repeat the question?

(The question was read.)

MR. TUBLIN: I want my objection noted.

Q Is that right?

A That's right.

MR. GERACE: Would you stress the words "port side tank" to this witness and not the basin like he said? Read that question back and let's make sure we have an accurate translation.

MR. WAESCHE: I think that you can do that, whatever you wish on redirect examination.

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MR. TUBLIN: I just want to know whether he got the correct interpretation.

THE INTERPRETER: He says, this concerns the left side of the boat, not the right side.

Q I understand.

A I said that if we are talking--on the left side there is a basin but they are not exactly on top as here.

Q All right.

A And I know that this basin has three scuppers because I have followed the entire line and know that it winds up in the double bottom of that tank. It connects to the double bottom directly on top of it screwed on.

Q Are there any valves in the scupper lines?

A No, there are none.

Q How many scuppers were there in the basin from which you observed oil overflow?

A Three scuppers. One is exactly underneath the basin that's underneath the day tanks of the electrical generators. The other two are in the other space where are the filters of the main engine generator. On the left side on the one hand but toward the outside portion of it, toward the center.

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Q Do the three scuppers which you have just testified to also lead to the double bottom?

A They are the ones that go, yes.

Q Are there any valves on those scupper lines?

A No.

Q Therefore, is it not a fact that if your side tank overflows and accumulates in the double bottom so that the double bottom is full, the oil goes up your scupper lines?

A That's right.

Q And into the basins?

A That's right.

Q Is there an overflow line from the gas oil tank?

A You are talking about the gas oil tank that's on the righthand side of the vessel?

Q Yes.

A Are you asking if there is a glass indicator there?

Q I am asking if there is an overflow line.

A Yes, there is.

Q Does that overflow line also go down into the double bottom?

A Of course.

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Q And is it not a fact that if you received an overflow from your gas oil tank to such an extent that the double bottoms were full the oil would go back up the scupper lines?

A If the double bottom tank does fill up then the excess will go to the lines of the scuppers.

MR. WAESCHE: Let's mark this diagram as Respondents' Exhibit B for identification.

(Hand-drawn diagram on yellow sheet, marked Respondents' Exhibit B for identification, as of this date.)

MR. TUBLIN: Mr. Waesche, there is no indication as to who drew the diagram.

MR. WAESCHE: I know it.

MR. TUBLIN: May we get that?

MR. WAESCHE: Off the record.

(Discussion off the record.)

BY MR. WAESCHE:

Q Do you know whether or not on the morning of March 18th the gas oil day tanks were filled?

A The day tanks of the main engine or the electrical generator?

Q The electrical generator.

A Are you asking me if I knew this when I took on

A Here it does not say side tank, it reads day tank.

Q Will you please encircle the writing that you are referring to with a red pencil (handing to witness)?

A Yes.

Q And will you place your initials under that in red?

A Yes.

Q Can you tell us what the writing that you have encircled says?

A Day tank.

Q Can you tell us what you believe to be the tank shown on the drawing marked Respondents' Exhibit B for identification is?

MR. WAESCHE: I will object to it.

A What tank is this that this drawing shows? Since it shows the basin all around it is the generator, electrical generator day tank. The difference being that it does not have the sight glass shown here on this drawing.

Q Could you tell us from what source you saw the diesel oil bubbling from the scuppers immediately prior to the fire?

MR. WAESCHE: I will object to the form of

the question.

A If we assume that this is the day tank of the electrical generators and this basin is exactly around it, exactly there where it is shown is the scupper as shown.

MR. WAESCHE: Would you mark where you indicate scupper is shown in ink?

MR. TUBLIN: I am sorry, will you do that on your examination?

MR. WAESCHE: I am sorry, the record can hardly be clear unless it is now identified.

MR.TUBLIN: Let me first complete my examination.

MR. WAESCHE: I am sorry, the witness pointed to the diagram and I think the record ought to indicate now where he pointed.

MR. TUBLIN: Mark it where you pointed.

THE INTERPRETER: How will you want him to mark it?

MR. WAESCHE: With a circle around it, please, in ink.

THE INTERPRETER: Around the scupper, you meant, sir? That's what he wants to know.

MR. WAESCHE: Yes.

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A This basin as it stands should have a scupper there in the center underneath. The way it is shown on the drawing it is not the way it is exactly there.

MR. WAESCHE: Nevertheless, did you--

MR. TUBLIN: I am going to suggest that you--

MR. WAESCHE: Did you point to a scupper?

A I didn't show you a scupper, but if this is the basin and there is a scupper there, the oil would overflow through the scupper. The drawing is not exactly like that, it is not similar like that.

BY MR. TUBLIN:

Q How many scuppers did you see the oil bubbling from?

A From three.

Q Where do those scuppers lead to?

A To the double bottom overflow tanks.

Q Where does the double bottom overflow tanks connect to?

MR. WAESCHE: Again just for the record, objection to the form of the question.

THE INTERPRETER: He asks what do you mean.

Q What did the overflow bottom tank that you

just mentioned connect to by pipe?

A Are you asking how they are emptied?

MR. TUBLIN: No. Strike the question.

No further questions.

MR. WAESCHE: No further questions.

(Time noted: 2:10 p.m.)

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C E R T I F I C A T E

STATE OF NEW YORK)
: ss
COUNTY OF NEW YORK)

I, C. A. MICHAELINI, a Certified Shorthand Reporter and Notary Public within and for the State of New York, do hereby certify:

That ANDREAS SPETSIOTIS, the witness whose deposition is hereinbefore set forth, was duly sworn (through the interpreter) by me and that such deposition is a true record of the testimony given by such witness.

I further certify that I am not related to any of the parties to this action by blood or marriage; and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 29 day of April, 1971.

C. A. MICHAELINI, CSR

PLAINTIFF'S EXHIBIT 48. 3

J A C Q U E S A. C A S E, called as the official interpreter in this matter, was previously sworn by the Notary Public (C. A. Michaelini) to accurately and faithfully translate the questions propounded to the witness from English into Greek and the answers given by the witness from Greek into English.

oOo

G R E G O R I O S S O F R O N I O U, called as a witness by the petitioner, being first duly sworn by the Notary Public (C. A. Michaelini), and stating his residence as 36 Peloponnisou Street, Elioupolis, Athens, Greece, testified (through the interpreter) as follows:

EXAMINATION BY MR. TUBLIN:

Q Will you please state your full name and home address?

A Gregorios Sofroniou. 36 Peloponnisou Street, Elioupolis, Athens, Greece.

Q What is your occupation?

A I am first engineer in merchant vessels.

Q How long have you been going to sea?

A Since 1950.

Q Do you have any licenses issued by any

PLAINTIFF'S EXHIBIT 48
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government?

A Of course. Since 1964 I have a first engineer's license.

Q Who was that issued by?

A The Greek Ministry of Merchant Marine.

Q How many years have you sailed as a licensed engineer in all capacities?

A As a licensed engineer I have been at sea since 1955.

Q How long have you sailed as a chief engineer?

A During the years 1961 and '62 without a license.

Q How many years have you sailed as a chief engineer?

A You mean excluding the time when I am not aboard?

Q Counting the sea time period only, not shore time.

A About six and an half years.

Q What was the last ship you were on?

A The last ship was the TRADE DARING.

Q When did you join the TRADE DARING?

A The TRADE DARING? I boarded the TRADE DARING for the first time on December 29, 1970 at Groton, Connecticut.

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Q In what capacity were you employed on the TRADE DARING?

A As first engineer.

Q When did you leave the TRADE DARING?

A I left the TRADE DARING on the 18th of April in the morning.

Q Was it the 18th of April or the 18th of March?

A March. One month ago, yes. The days have gone by and I didn't catch on.

Q Chief, I show you a plan and ask you if you can identify it (handing to witness).

A This is the vessel's capacity plan.

MR. TUBLIN: I would like to have this marked as Petitioner's Exhibit No. 3 for identification.

(TRADE DARING's capacity plan, marked Petitioner's Exhibit 3 for identification, as of this date.)

Q On March 18, 1971 where was your ship, chief?

A It was unloading at Perth Amboy, New Jersey.

Q When did your vessel arrive at Perth Amboy, New Jersey?

A On the 16th of March.

Q When the vessel arrived on the 16th of March,

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chief, did you make any determination as to how much diesel oil bunkers you had on board your ship?

A Of course. We always do that.

Q What was your determination of how much diesel oil bunkers you had on board the ship?

A All told about 200 tons.

Q Where was that diesel oil stored? Or kept?

A In the side tanks, in the settling tanks and in the day tanks.

Q Were any of the tanks that you mentioned where the diesel oil was stored full?

A Yes, of course.

MR. WAESCHE: I object to the form of the question. The time is not specified.

A The day tanks and the settling tanks were.

Q At what time were the day tanks and the settling tanks full that you referred to?

A When we arrived they were full.

Q How many day tanks and how many settling tanks do you have? For the diesel oil.

A Two settling tanks and two day tanks.

Q Did you advise the captain how much bunkers you had on board, diesel bunkers you had on board when your vessel arrived in New York?

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Sofroniou 7

A No, I gave him the total quantity.

Q What quantity did you advise the captain of?

A I don't remember exactly, about 165 to 170.

Q If you had 200 tons on board when you arrived why did you tell the captain you had 165 to 170 tons?

MR. WAESCHE: Objection.

Q Answer the question.

A Usually we first engineers, and this is done by all first engineers, allow one day's travel at sea for security purposes.

Q Chief, referring to the capacity plan, Petitioner's Exhibit No. 3 marked for identification, would you tell us how many tons capacity of diesel oil there is in--or metric tons capacity of diesel oil is there in the port side tank (handing to witness)?

A This is in German, but I think I know.

THE WITNESS: This one is the port side tank, 140--174.5.

THE INTERPRETER: Pointing where his finger is.

A Metric tons.

THE WITNESS: This one.

Q Would you tell us, chief, what is the capacity--

MR. WAESCHE: Wait. Would you read that

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question and answer back?

(The record was read.)

MR. WAESCHE: May the record indicate where the witness was pointing?

THE INTERPRETER: Right here.

MR. WAESCHE: I will draw a line to it, or from it, and would you label it A, please, Mr. Interpreter?

MR. TUBLIN: He is going to be reading several capacities, and for future reference indicate the column shall be in without having to mark up each--

MR. WAESCHE: If you would, that would be fine.

MR. TUBLIN: It will be a column headed by the letters T with an A with a hyphen above it then 1000 KG.

MR. WAESCHE: All right.

MR. TUBLIN: Which is part of a tabulation of tankages in German, and I will spell it for you, "I-n-h-a-l-t-e d-e-r t-e-r-e-i-b-o-l-t-a-n-k-s." Then there will be another column referred to later.

Q Chief, will you tell us what the capacity in metric tons is of the diesel starboard side tank?

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THE WITNESS: 218.2 metric tons.

Q Could you read that again?

THE WITNESS: 219.2.

Q Chief, will you tell us what the capacity of the port settling tank is in metric tons?

THE WITNESS: Starboard side--

Q Port.

THE WITNESS: Port or starboard?

Q Port.

A 32.2 metric tons.

Q Will you tell us the capacity in metric tons of the starboard settling tank?

THE WITNESS: 32.2. Same.

A It's exactly the same.

Q Chief, will you tell us the capacity in metric tons of the port day tank? For the diesel oil.

A Of what side?

Q Port.

A 14.7 metric tons.

Q Chief, will you tell us what the capacity in metric tons is for the starboard diesel day tank?

THE WITNESS: 16.3.

A It is more, it is 16.3.

THE WITNESS: Metric tons.

A Metric tons.

Q Chief, will you tell us the capacity in metric tons for the gas oil tank?

THE WITNESS: 61.2 metric tons.

Q Chief, will you tell us what the capacity of the overflow tank in the double bottoms--diesel overflow in the double bottoms is?

A Which one do you want? We have two. The gas oil or the diesel oil?

Q The overflow tank in the double bottoms for the side tanks.

THE WITNESS: Diesel oil 17.7 cubic meters.

Q Will you tell us what the capacity is in the overflow tank in the double bottoms for the gas oil tank?

THE WITNESS: 9.5 cubic meters.

Q When I asked you, chief, how many tons of diesel oil you had on board when your vessel arrived, was that answer in metric tons or long tons?

A I always--they were long tons.

Q How many side tanks does your vessel have for diesel oil?

A Two.

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Q Where are they located?

A On the right and left in front of the rear accommodation section.

Q Do the right and left side tanks have any overflow pipes?

A Of course.

Q On what level is the openings to the overflow pipes in the side tanks?

A They are about one and a half steps from the opening that we can see.

Q Where do the overflow pipes from the two side tanks lead to?

A They go to the diesel tank double bottom overflow.

Q Did your vessel have occasion to take on bunkers at New York on March 17 or 18, 1971?

A Yes, of course, we began in the evening of the 17th and finished at dawn of the 18th.

Q When did your vessel commence to take on bunkers?

A About 10:15.

Q On what date?

A Of the evening of the 17th.

Q From what vessel were you receiving the bunkers?

A Mobil oil barge, I don't remember the name of the vessel.

MR. TUBLIN: He mentioned TRADE.

THE INTERPRETER: Mobil barge TRADE.

Q Who connected the hoses or pipes to the barge?

A Our crew.

Q Who pumped the oil into your vessel?

A The barge was doing it.

Q In what tanks of your vessel was the bunkers to be received?

A To the side tanks and to the gas oil tank.

Q About how many tons of bunkers were you expecting to receive?

MR. WAESCHE: I will object to that question.

A 360.

Q Is that metric tons or long tons?

A Long tons.

Q Was it necessary to turn any valves to allow the bunkers to go into the side tanks?

A No. Excuse me. What do you mean to open? To open the valves? Here we had to open three valves.

Q What valves had to be opened to let the oil into the side tanks in the bunkering process?

accommodation?

THE WITNESS: Aft.

A The aft accommodation.

Q After midnight in the early morning of March 18th did you have occasion to see Mr. Bafaloukos?

MR. WAESCHE: Objection as leading.

A Bafaloukos was down below exactly and he was monitoring the level of the petroleum.

MR. WAESCHE: I move the answer be stricken.

Q After midnight did you have occasion to see Mr. Bafaloukos?

A Yes, I wa' hed him.

MR. WAESCHE: "I watched him"?

MR. GERACE: That's what he said.

THE INTERPRETER: Well, the words he used were (Greek). This means it's the past imperfective test of the verb to see and it means I was seeing him, literally.

Q When did you see Mr. Bafaloukos?

A I saw him about 12:30.

THE INTERPRETER: Then I am not clear whether he said "and went to inform the second engineer" or "when he went to inform the second

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Sofroniou 15

engineer."

Q Did you see Mr. Bafaloukos after 12:30?

MR. WAESCHE: Again objection. leading.

A He came at a quarter of one and told me that bunkering had ended.

Q What did he say to you at that time?

A He told me, "Chief," he said, "bunkering is finished and I am going to notify them to stop."

He was watching the level of the bunkering then he went to notify the people involved to stop the bunkering and then he came to me and told me what he did and then went down to the engine room again.

MR. WAESCHE: I move that be stricken.

Q Chief, did Mr. Bafaloukos tell you at that time that he was going to tell, or give instructions for the bunkering to stop, or did he tell you that the bunkering had already stopped?

A It had stopped.

Q At what time was that report?

A It must have been a quarter of one.

Q On the early morning of March 18th, did your vessel sustain a casualty?

A None. That is to say, up to that moment he told me.

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Sofroniou 16

Q No, after that moment and at some time during the morning of March 18th did your vessel sustain a casualty?

A Of course. It caught fire.

Q When did you first learn that your vessel had caught fire?

A About five or six minutes after being told that the bunkering had finished.

Q How did you learn that your vessel had caught fire?

A The second engineer and Safaloukos came up fast and told me, "Chief, there is a fire."

Q What did you do when you learned that?

A Immediately I tried to open the door that was across from my desk but it was closed. I could not open it. And I went around the other way and it too, the door.

Q Then what did you do, chief?

A Then I told the second and third engineers who were there to go close the ventilators and skylights, make sure that anybody was not down below and to go to start the emergency pump, but within one or two minutes there was a blackout and we could not do it.

Q Could you tell where the fire was burning in

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your ship?

A I didn't see anything myself. The fire was spread throughout the engine at that moment. Then I asked the second and third engineers, and he tells me in the No. 3 electrical generator.

Q Then what happened, chief?

A Since there was a lot of smoke we could not stay there, we all left and went to the deck. In the meantime I went to the captain, "Captain, there is a fire in the engine room. We cannot start the pump. There is nothing we can do."

Q Then what happened?

A . Then we went down below because we were afraid there might be an explosion.

Then we were told that it was caused by petroleum, by oil.

Q When you say you went down below, went down below where?

A Onto the dock. Through the side ladder.

Q Did you ever try to get into the engine room, chief?

MR. JULIANO: When?

Q At any time after the fire had started.

A Yes. As I told you, I tried to open the door

PLAINTIFF'S EXHIBIT 48
Sofroniou 19

he arrives at a figure which would be the equivalent of long tons, is that right?

A That's right.

Q Is the TRADE DARING equipped with day tanks to supply fuel to your auxiliary diesel engines?

A Of course we have two small tanks containing pure diesel for the electrical generators.

Q What is the capacity of the two small tanks?

A About two tons each.

Q Where did you obtain that information?

A About, this is approximate, when the two electrical generators were working I would watch, they would consume about a ton and a half leaving half to one-third.

Q I will repeat my question:

Where did you obtain your information about the--

MR. TUBLIN: I object to the form.

The witness answered the question.

Q Where did you obtain your information with respect to the capacity of the day tanks?

MR. TUBLIN: He's answered the question.

MR. WAESCHE: Answer it again.

A I estimate this. The consumption has a gauge

PLAINTIFF'S EXHIBIT 48
Sofroniou 22

production of this document (indicating).

MR. TUBLIN: Here you are (handing to counsel).

(At this point Mr. Stratakis entered the hearing room.)

BY MR. WAESCH:

Q Chief, I place a booklet before you and ask you if you can identify that for me (handing to witness).

A Of course.

Q What is it?

A It is the calibration showing the capacity of the vessel's tanks.

Q All of the vessel's tanks?

A However, it does not show the day tanks containing pure diesel for the electrical generators.

MR. WAESCHE: I ask that it be marked for identification.

(Calibration showing capacity of vessel's tanks, marked Respondents' Exhibit C for identification, as of this date.)

Q Chief, how did you learn that you had approximately 200 tons of diesel oil aboard upon arrival at the Hess terminal?

A I had instructed the second engineer to

PLAINTIFF'S EXHIBIT 48
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determine the quantity and he brought me that amount.

Q Did he give it to you in writing?

A Of course.

MR. WAESCHE: I ask for the production of the paper upon which the second had written that there were approximately 200 tons aboard.

MR. TUBLIN: Insofar as we know there is no such paper in existence, and you may ask the witness if such a paper is in existence.

Q Did you--

MR. TUBLIN: Shall I ask him that?

MR. WAESCHE: You can do so whenever you wish, but not now, I want to continue.

Q Did you instruct the master to order 360 long tons of diesel oil?

A I did not.

Q Did you tell him anything with respect to ordering diesel oil while the ship was at the Hess terminal?

A No, I did not.

Q Have you ever seen a diagram showing the piping arrangements leading from the main pipe from your line on deck aft of the accommodation, midship accommodation housing to the various side tanks, settling tanks,

day tanks and gas oil tanks?

A Since the diagrams were in German and it was difficult for me to understand them I had followed the lines myself. They were not difficult to follow.

MR. WAESCHE: I move to strike that as not responsive.

Q Did you ever prepare a diagram for your own use indicating the piping to the various tanks?

A No, I did not. It was not necessary.

MR. WAESCH: I request on the record production of the piping diagram which I have referred to.

MR. TUBLIN: I have submitted various diagrams to your office. Mr. Juliano searched through many of the diagrams at the agent's office and took with him in addition to those I already provided six or seven diagrams for photostating. You are welcome to whatever diagrams we have. I think I have produced all that I have been able to locate in connection with this matter.

MR. WAESCHE: Do I interpret that to mean that you have not been able to locate the piping diagram?

MR. TUBLIN: That would be a fair

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assumption. That's correct, I have not been able to locate a piping diagram of the diesel loading system. I provided you with many other diagrams.

MR. WAESCHE: I state for the record that indeed you have, and the one which was most pertinent to this particular case was missing.

MR. TUBLIN: I have also instructed ABS to release such a diagram if they had it to Mr. Juliano at the time of his inspection of their records.

MR. WAESCHE: And I will also state for the recor d that we requested production of such diagram from ABS and apparently ABS could not find such a document.

Q Chief, had you ever ordered chemicals for the foam fire-extinguishing system which was on board the TRADE DARING at any time whatsoever?

A No, but in Germany they had changed all the fire-fighting extinguishers, the fire-extinguishers, they were new.

Q Who is "they," chief?

A Specifically I cannot tell you. The captain should know. The insurance people, I guess.

Q When was this done?

PLAINTIFF'S EXHIBIT 48
Sofroniou 26

A When we were at Emden, Germany.

Q What year?

A At the beginning of March.

Q 1971?

A Yes.

Q Was this done by shore personnel?

A That's right.

Q Were any chemicals for use in the foam fire-extinguishing system brought aboard the vessel at that time?

A Do you mean for the emergency pump? No.

THE INTERPRETER: The word "no," preceded.

A Do you mean for the emergency pump?

Q Is the TRADE DARING equipped with a foam fire-extinguishing system?

A No. No. No.

Q Chief, I am going to place before you a plan and ask you if you could identify that for us (handing to witness).

A It is the TRADE DARING. The first time that I see this.

MR. WAESCHE: Please mark the diagram Respondents' Exhibit D for identification.

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Exhibit E for identification, as of this date.)

Q Chief, did you personally give any orders regarding the amount of bunkers that the TRADE DARING should receive while she was moored to Hess? And by bunkers I mean diesel oil.

A No, I did not.

Q Were you ever on the deck between the after accommodation and the forward accommodation at any time during the night of March 17-18, 1971?

A No, except at the time I went to look at the connection when the connection was made with the hose.

Q The hose you are referring to is the hose from the vessel that was supplying the diesel fuel to the TRADE DARING?

A Yes, the hose that connects the barge to our connection on our vessel.

Q When did you inspect that hose connection?

A About 9:00, 9:15.

Q Had the barge started to pump diesel oil to the TRADE DARING at that time?

A No, no, it had not.

Q Were there any lights on the barge at that time?

goes there but these have to be closed--

Q "This one" referring to E?

A E. But these have to be closed when we want to do that.

MR. TUBLIN: Referring to D and C.

Q D and C. D and C must be closed before you can get oil to the gas oil tank, is that right?

A The on-deck filling valve would be open, valve E would be open, C and D would be closed and it would go directly to the gas oil tank.

Q If one closes valve B can any oil go to the gas oil tank?

A No. No, because that is the main valve

MR. WAESCHE: I ask that the diagram--

off the record.

(Discussion off the record.)

BY MR. WAESCHE:

Q Chief, if one closes valve B is it possible--

A No oil will come through.

Q No oil would go to the side tanks?

A If we close this (indicating). No.

MR. WAESCHE: I ask that the diagram be marked Respondents' Exhibit F for identification.

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Sofroniou 38

oil to get to the gas oil tank located?

A It is further to the right.

Q On what level?

A On the same platform. But here I can't quite understand it.

MR. WAESCHE: Nothing further.

BY MR. TUBLIN:

Q Chief, is the TRADE DARING equipped with a fire-fighting system which operates from the emergency generator room?

MR. WAESCHE: I object to that as grossly leading.

A Yes, it does.

Q What kind of fire-fighting system is it?

A It pumps in sea water and it has a funnel into which we pour some kind of liquid material, German, I don't know what kind of brand it is.

Q What happens after you pour the liquid into the funnel?

A It is like foam, it has the property of extinguishing fire.

MR. WAESCHE: May I have the answer read back, please?

(The answer was read.)

COMMERCE REPORTING CO.

PLAINTIFF'S EXHIBIT 48
Sofroniou 39

BY MR. TUBLIN:

Q Where is this liquid kept that would be poured into the funnel?

A Right there, right in front of the pump, the emergency pump. It is on a standby basis ready.

Q Was your vessel equipped with the liquid on March 16th--

MR. WAESCHE: Objection. No foundation has been laid for the knowledge of this witness.

Q Chief, do you know whether your valve was equipped with the liquid that would be used in your emergency fire-fighting equipment?

A We had there 15 containers,drums, 15 drums there. In addition to other drums in the warehousing facility.

Q What did these drums contain?

A A special liquid.

MR. TUBLIN: That's all the questions I have.

BY MR. WAESCHE:

Q Did you keep a list of stores which were aboard the TRADE DARING when she arrived at Hess terminal?

A Yes, we have special books.

PLAINTIFF'S EXHIBIT 49. 3

P E T R O S G I A L O U R A K I S, called as a witness by the petitioner, being first duly sworn by the Notary Public (C. A. Michaelini), and stating his address as No. 30 Michael Nomikou Street, Patissia, Athens, Greece, District No.816, testified as follows:

EXAMINATION BY MR. TUBLIN:

Q Will you state your full name and address?

A Petros Gialourakis, 30 Michael Nomikou Street, Patissia, Athens, Greece, District No. 816.

Q What is your occupation?

A Master.

Q What was your last employment?

A On TRADE DARING.

Q In what position?

A As master.

Q How long have you been going to sea?

A Since 1954.

Q Do you have any licenses issued by any government?

A Yes, I have a master's license issued by the Greek Mercantile Marine Ministry and also Liberian license master of ocean going.

Q When did you obtain your Greek master's license?

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Gialourakis 4

A 1968.

Q When did you obtain your Liberian master's license?

A In the same year.

Q What was the first vessel you sailed on as master?

A ALBANO.

Q What year was that?

A In 1969.

Q What kind of vessel was it?

A Tanker.

Q How long were you on that vessel?

A Four months.

Q What was the next vessel you sailed on as master?

A OLYMPIC WIND.

Q What type of vessel was that?

A It was an oil carrier.

Q How long were you master on that ship?

A For one year.

Q What was the next ship you sailed on as master?

A OLYMPIC BROOK.

Q What type of vessel was that?

PLAINTIFF'S EXHIBIT 49
Gialourakis 5

A Tanker vessel.

Q How long were you employed as master on that ship?

A For four months because I have been transferred from OLYMPIC WIND to OLYMPIC BROOK.

Q What was the next ship you sailed on as master?

A TRADE DARING.

Q When did you join the TRADE DARING?

A I joined the TRADE DARING in Emden on the 27th of February.

Q What year?

A 1971.

Q Where did your vessel proceed to after Emden?

A To Antwerp.

Q What did it do at Antwerp?

A For loading.

Q What cargo did it load?

A Low sulphur fuel oil.

Q Where was that cargo bound for?

A For New York.

Q When did you leave Antwerp?

A On the 4th of March.

Q When did you arrive at New York?

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A On the 16th of March.

Q Where did your vessel go to in the Port of New York to discharge her cargo?

A To the Hess oil terminal, Perth Amboy.

Q Did you discharge your cargo?

A We discharged the whole cargo there.

Q When did you complete the discharge of your cargo?

A Around 2100 on the 17th.

Q Of what month?

A Of March.

Q How was your vessel tied up to the Hess terminal?

A On the port side.

Q After your cargo was delivered at Hess terminal, what were the plans for your ship?

A To proceed afterwards to the Caribbean for orders.

Q After your cargo was delivered, did you make any preparations to go to sea on the 17th?

A Yes.

Q What preparations were those?

A After the delivery was the inspection of the tanks by the Saybolt surveyor to give us a certificate

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Gialourakis 7

of dry--empty certificate anyhow, and to start ballasting, and in the meantime the deck crew started to prepare the vessel for example to get the derrick down and to clean up the deck where the cargo hoses has been disconnected and some oil has been dropped on the deck, they have to clean up with the sawdust.

Q Did you put any ballast into your ship's tanks?

A Yes, in No. 2 wing tanks.

Q Any other tanks?

A And No. 8 just we started to ballast in that place, in No. 8 wing tanks when the fire started. In that moment.

Q Did your vessel load any bunkers at Perth Amboy?

A Yes.

Q How did it receive bunkers on board?

A Through--by what means you mean?

Q How was the bunkers delivered to your ship?

A By the barge.

Q What barge?

A Mobil company.

Q Where was the Mobil barge located with respect to your ship?

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Gialourakis 8

A On the starboard side, and the aft of the barge was exactly on the forward part of the midships accommodation, and the forward of the barge was about in the middle of the aft well deck.

Q Were there any hoses or pipelines connected between the barge and your vessel?

A Yes, with a rubber hose of six inches.

Q Do you know who that hose belonged to?

A To the Mobil barge.

Q Where was that connected on your ship?

A It was connected on the second--now I can clarify this, there have been two connections on deck, on the aft of the midship accommodation and it was connected on the second one for the diesel oil.

Q What kind of bunkers were you expecting to receive on board?

A Around 360 tons.

Q What kind of oil?

A Diesel oil.

Q Doyou know at about what time the bunkering started?

A It was about 2215.

Q On what date?

A On the 17th of March, 1971.

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Gialourakis 10

A It was cold and I can say light wind. Northwest coming.

Q Who was working on deck to prepare your ship for going to sea?

A Chief officer and second officer, as well as the deck crew.

Q In the early morning hours of March 18th, did you have occasion to have any conversations with the third engineer, Bafaloukos, concerning the bunkering of your vessel?

A Bafaloukos, I met him only on the time he was rushing on deck on the 18th of March, 1971 and yelling--shouting anyhow, yelling, to me to inform the barge immediately to stop the bunkers.

Q What time was this, captain?

A That was about 49 minutes after midnight.

Q Where were you at the time?

A I been on the upper deck on the aft of the midship accommodation.

Q Where was Mr. Bafaloukos at that time?

A Bafaloukos was coming from the starboard side of the aft accommodation towards midship.

Q Were there any lights on the deck of your vessel at that time?

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A Yes, there were.

Q What kind of lights did you have on your deck then?

A All the lights of the vessel, flood lights, on the king posts, on the bow decks.

Q Were there any lights on the barge, the Mobil barge?

A Yes, there were, there were lights.

Q What lights were on the Mobil barge?

A There were lights on the mast because they had the one kind of mast by which the hose of the barge was hanging.

Q When you heard Mr. Bafaloukos shouting, what did he say at that time, captain?

A To me?

Q Yes.

A He said, "Say to the barge to stop immediately the bunkers pumping."

Q What did you or he do next?

A I ran to the starboard side where the barge was lying on the midships accommodation and start shouting to the barge, because no one was on deck of the barge on that moment, and after several times I shout to

PLAINTIFF'S EXHIBIT 49
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them a man appeared coming from the starboard side of the accommodation of the barge and when he heard what I was saying to him to stop immediately the pumping, then he stepped to the diesel pump of the barge decreasing the revs and then stepped to a valve was lying beside the aft tank of the barge and started closing it.

Q Then what happened?

A Then I heard that the diesel was running and not stopped utterly and I shout again to him asking why the diesel is running.

Reply was that he wanted to clear up the hose from oil.

Q Then what happened, captain?

A Then I stepped and went to the bridge and I make a telephone call to the engines.

Q Captain, can you describe the man that you saw on the barge?

A Yes.

He was a medium high, around 48 to 55 years old. He was wearing a blue heavy winter jacket with a hat--I cannot--

THE INTERPRETER: Cap.

A With a cap.

Q You mentioned making a telephone call. What

was that in connection with?

A I was asking about the engines if they are ready and when.

Q Who did you speak to in connection with that telephone call?

A With the second engineer.

Q Where was he at the time?

A He was in the engine room.

Q When you spoke to the man on the barge, did you see what the third engineer, Mr. Bafaloukos was doing at that time?

A He was shouting with me on the beginning, and when the man came out and start decreasing the revs of the diesel pump, then he ran backwards in the engine room. When I say run, is rush.

Q What happened after your telephone call to the engine room, captain?

A Can you repeat, please?

Q What happened after your telephone call to the engine room?

A Afterwards I came down on the boat deck, and I was promenade looking after the chief officer and the deck crew who were getting the gangway in and put in place and secure it.

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Q What happened after that?

A After that was people came out from the aft accommodation and start shouting to me that fire appeared in the engine rooms.

Q What did you do then?

A That time I rush to the aft accommodation to identify myself how far has been spreaded out--I mean how the--

THE INTERPRETER: How extensive.

A Yes, how extensive it was the fire and when I opened the door of the engine room big flames came out and heavy smoke, and so it was impossible for anybody to enter in the engine room.

Q Then what did you do, captain?

A I gave order to close all the openings, sky-lights, vents and holes--portholes, doors which were on the boat deck aft, to prevent any air to come in the engine room.

Q Then what did you do,or, what happened next?

A We tried to come close where the emergency pump--emergency generator and fire pump is located, but it was impossible due to the heat and the heavy smoke there around doesn't permitted us to put her in operation.

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Gialourakis 15

Q What type of equipment is the emergency fire pump?

A Is a foam--now you mean how it works?

Q What kind of equipment is it?

A Is for fire-fighting equipment, the emergency generator produces--electricity which gives electricity to the electric fire pump, emergency pump and through a funnel you put a liquid which produces a foam and by that means you can fight against the fire.

Q Where does that foam go if you operate the pump?

A It goes down to the engine room.

Q Did you have the liquid for the foam system?

A Yes, we have liquid in the same space where the emergency generator is located. And also we have more stock amidships, chief officer's store.

Q What other fire-fighting systems did you have, captain?

A The portable fire extinguishers which are distributed all around the aft accommodation engine room, midship, and in the forecastle and through the tunnels.

Q Any other fire-fighting equipment?

A We have also the sea water by the fire pump

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of the engine which can distribute water all around the ship to the different fire stations.

Q Did you have any steam smothering system on the ship?

A Steam smothering we have for the boiler room and also for the cargo tanks.

Q What happened next, captain?

A Then I ran back on the bridge. I can make a parenthesis. When the fire started in that moment was the dock pilot on dock who climbed by pilot ladder on board the vessel. And he went on the bridge and he was with the SANDY HOOK pilot.

So I met them on the bridge and we decided to get the ship out of the dock for avoiding any damage to the shore installation as the situation on board the vessel was very dangerous for explosion.

Q Captain, after the fire started, did you ring the general alarm?

A No.

Q Is there any reason why you didn't ring the general alarm?

A Yes, because in the position I was on the boat deck in the aft part of the midship accommodation and at the time they shout to me fire in the engines, I ran

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first to locate and to see the extension of the fire and I was confused anyhow in that moment to run on the bridge to ring first the bells and then to go where the fire.

Q When you returned to the bridge, did you ring the general alarm?

A No.

Q What did you do when you returned to the bridge?

A When I return to the bridge we were trying to get the vessel out of the dock of Hess Oil Terminal. And also I was asking to the fire cars which appeared on the dock to throw water on the aft part to avoid any extension of fire to the terminal.

Q When you returned to the bridge, captain, what was the condition of the fire on your ship?

A Flames were coming from the funnel to the air, also heavy smoke they were coming out from all the aft accommodation.

Q When you returned to the bridge, captain, where was the ship's crew?

A When I returned on the bridge, the crew, the deck crew were in the aft part where the fire was spreading and they was using anyhow the fire extinguishers,

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but it was no means to control the fire.

And so some of the crew they climbed through the pilot ladder and went ashore. The rest of the crew has been--ran forward in order to faciliate the tugboats to get the vessel away from the dock.

Q What tugboats are you speaking about, captain?

A The tugboats of--because the dock pilots are coming on board the ship with tugboats naturally, and these tugboats are to get the vessel away from the dock when she's going to sail.

Q How many tugboats was that?

A There were two in that moment.

Q Do you recall their names?

A Actually I don't remember. It was McAllister.

Q Did these tugboats assist your vessel?

A Yes, they assisted my vessel to get her away from the dock.

Q What was done to get your vessel away from the dock?

A What time you mean we left the berth?

Q Or whatsteps were taken to get your vessel away from the dock?

A Actually due to the rush to prevent any damage to the shore installation due of the dangerous position

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Gialourakis 19

of the vessel for explosion in that moment we gave order--when I say "we gave," that means by myself and the dock pilot--to cut off the lines and to be quickest the way to get the ship out of the berth.

And the meantime two tugboats has been made fast, one forward and another one on the starboard bow of the vessel.

Q Which tugboats were those?

A McAllister's.

Q Then what happened?

A When we made fast these tugboats the forward ropes has been cut by shore men. The aft lines cannot be cut by shore men as these lines was laying on a dolphin, pontoon.

So another tugobat appeared which has been called by the dock pilot and tried and cut the ropes of the aft--of the stern ropes.

Q What direction was your ship heading when it was tied up on the Hess dock?

A To the north.

Q Did your ship get away from the Hess dock?

A Yes.

Q How was that accomplished?

A That was accomplished by the assistance of the

PLAINTIFF'S EXHIBIT 49
Gialourakis 20

tugboats and swinging the vessel in midstream and then heading to the south.

Q Did the Mobil barge remain with your ship?

A No. The Mobil barge as soon as the fire appeared on my vessel in the engine room and they saw that the smoke is coming out then they climbed by ladder on the ship's deck and they disconnect the hose and the ropes has been released by us and she ran away.

Q After your vessel was turned around by the tugs, where did it go to?

A We went to the Amboy anchorage where we anchored.

Q How did you get there?

A With the assistance of the tugs.

Q How many tugs were assisting you?

A In that time there were four tugboats.

Q Do you know the names of the tugboats?

A I cannot get you the names because in that moment we were looking for the fire and all these things and not having noticed the names.

Q What was the condition of the fire while you were being towed to the anchorage?

A Flames were coming in all aft accommodation and also from the funnel and the air vents, and heavy

PLAINTIFF'S EXHIBIT 49
Gialourakis 21

smoke.

Q While your vessel was being towed to the anchorage how many people were on board your ship?

A There were 14 crew members on board the ship.

Q Who was on board?

A Was myself, the chief officer, the second officer, the radio operator and AB's and some of the Steward Department.

Q Were there any pilots on board?

A There were the SANDY HOOK pilot and the dock pilot.

Q Where did your vessel anchor, captain?

A Where?

Q Where?

A Amboy anchorage.

Q About what time was that?

A Was about 0230, on the 18th of March.

Q When did you leave your ship?

A After ten minutes about I left--after the anchorage, I left the ship with the rest of the crew and the pilots, and we climbed the port ladder which we dropped on the forward well deck on a tugboat.

Q When you left your ship, captain, what was the

PLAINTIFF'S EXHIBIT 49
Gialourakis 22

condition of the fire?

A The condition of the fire was spreaded on all the aft part. Flames coming out through the skylights and windows. And heavy fume. And it was dangerous for explosion.

Q While your ship was in New York, did you have agents in the port?

A Yes, we have agents. Is the brokerage and management corporation.

Q Where are they located?

A 76 Beaver Street, New York 10005.

Q When your ship arrived in the Port of New York, captain, did you submit a list of stores on board your vessel to customs?

A Yes, I did.

Q With respect to that list, did you declare how much diesel oil you had on board?

A Yes.

Q What did you declare?

A 165 tons.

Q Where did you get the information to declare 165 tons?

A From the chief engineer.

Q Did you have any information concerning the

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amount of bunkers you expected to receive from the MOBIL TRADER?

A No. I haven't any information from the barge.

Q Did you have any information from anybody else as to the amount of bunkers you were expected to receive?

A No.

Q Did you have any instructions as to the bunkering of your ship?

A I had instruction about the bunker of the ship. As I informed my office the vessel to be supplied with bunkers.

Q Did you inform the office of--

A I informed about the amount.

Q --of the amount of bunkers to be received?

A Yes, I informed them to order closely to 360 tons of bunkers. Diesel.

MR. TUBLIN: No further questions.

MR. WAESCHE: May I have the ship's bridge log, please, Mr. Tublin? Deck log?

MR. TUBLIN: Yes (handing to counsel).

BY MR. TUBLIN:

Q Captain, I show you a book and ask you if you can identify it (handing to witness).

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(Smooth deck logbook, marked Petitioner's Exhibit 6 for identification, as of this date.)

MR. TUBLIN: I have no further questions.

EXAMINATION BY MR. WAESCHE:

Q Captain, how did you determine that you should order 360 tons of diesel fuel oil?

A According to the quantity I had on board the vessel, and I ordered for 360 tons. In case if it is more we have to stop the bunkering of the vessel, isn't it? Because if it is less we can get the whole bunker on board the ship.

Q I don't think that answers my question, captain.

How did you determine that you should order 360 tons?

A From the ship's capacity of the diesel oil.

Q What is the total capacity of the ship?

A About 540.

Q What tanks aboard the TRADE DARING are used to contain diesel?

A The wing tanks, the gas oil tank, the settling tanks.

Q That's all?

A Yes.

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Gialourakis 27

Q Do you read German?

A No.

Q Where did you obtain the capacities of the tanks?

A From the engine book, which is (indicating)--being noted here--

MR. TUBLIN: Referring to Respondents' Exhibit C marked for identification.

A The side tank port, side tank starboard and settling tanks port and starboard and the gas oil tank.

Q Isn't it a fact that there are also two tanks in the forward portion of the vessel which can be used to contain diesel fuel?

A Yes. Can contain also diesel.

Q Did you consider the capacity of those two tanks before ordering 360 tons?

A No.

Q Why not?

A Because we had the fuel. We had the fuel.

Q I am sorry, I didn't get that.

A We had the fuel oil.

MR. TUBLIN: I think to differentiate between diesel and bunker C.

Q Did you have bunker oil in the forward tanks?

PLAINTIFF'S EXHIBIT 49
Gialourakis 28

A Deep tanks.

Q Deep tanks?

A Yes.

Q Where are the deep tanks located which you used to house bunker oil?

A Forward, in the forecastle.

Q Who did you speak to when you requested 360 tons of diesel oil be delivered to the ship?

A To my office.

Q What office?

A Brokerage and Management Corporation.

Q To whom did you speak?

A To Captain Gregory.

Q When did you speak to him?

A On the 16th of March.

Q When did you start discharging cargo at the Hess terminal?

A On the 16th of March.

Q At what hour?

A I don't remember very well, but--

Q You may refer to your log if you wish.

A On the 16th of March, 1500 we start discharging.

Q Was your discharge interrupted in any way?

PLAINTIFF'S EXHIBIT 49
Gialourakis

MR. TUBLIN: That's the second A on that chart, by the way.

MR. WAESCH: 1.

Q Did you descend from the position marked A-1 to the main deck thereafter?

A Can you repeat, please?

Q Did you descend from the position marked A-1 to the main deck thereafter?

A For what time you are speaking?

Q When you saw Mr. Bafaloukos run out of the after accommodation.

A No. From this part I yelled down to the barge.

Q You always remained in that position?

A Yes.

Q The position that is marked A-1?

A Yes.

Q Had you ever spoken to personnel on the barge prior to the time that you shouted down with Mr. Bafaloukos?

A No. No. Except only the time that they connected the hose.

Q Did you have any conversation with anyone on the barge when the hose was connected?

PLAINTIFF'S EXHIBIT 49
Gialourakis 34

A After the hose connected?

Q Yes.

A No.

Q Did you have any conversation with anyone on the barge before the hose was connected?

A No. I had only the time that the hose connected because the hose cannot reach our manifold and I explain to them that they cannot be connected on our manifold due that the hose of the barge is short. And afterwards they provided an extension of the hose.

Q Was anything else said at that time?

A No.

Q Where did you go after you had the conversation with the barge personnel about hose connections?

A After I went to my room. To my office.

Q How long did you remain in your office?

A I remained for about an hour.

Q Where did you go then?

A After I was promenading on the boat deck. On the midship aft.

Q On what side?

A I was going through port and starboard side. I was promenading.

Q Did you ever go up on the bridge?

PLAINTIFF'S EXHIBIT 50.
MARINE EXTENDED PROTEST

Port of New York
March 26, 1971

By this public instrument of declaration and protest, be it known and made manifest unto all whom these presents shall come or may concern, that on the 26th day of March, 1971, before GERD FLOLO, a Notary Public, personally came and appeared PETROS D. GIALOURAKIS, Master of the Liberian ship TRADE DARING, Official No. 3505, of 15,510 gross tons, then lying at the Port of New York, without cargo, who duly noted and entered with the said GERD FLOLO his protest, for the uses and purposes hereafter mentioned: together with GRIGORIOS SOFRONIOU, Chief Engineer, ANDREAS SPETSIOTIS, Second Engineer, and THEODOROS BAFALUKOS, Third Engineer, all of and belonging to said ship, all of whom, being by me duly sworn, did severally, voluntarily, freely and solemnly declare, depose and state as follows, that is to say: That these appearers on the 4th day of March, 1971 in their capacity as aforesaid, sailed in and with the said TRADE DARING from the Port of Antwerp laden with a full cargo of low sulphur fuel oil and bound to the Port of New York; that the ship, cargo and crew arrived at the Port of New York and docked at Hess Oil Terminal, Perth Amboy, New Jersey,

PLAINTIFF'S EXHIBIT 50

on March 16, 1971 and there delivered her cargo on March 16 and 17, 1971, all without incident to the ship, cargo and crew; that at 2120 hours on March 17, 1971, upon completion of the delivery of her cargo, the said TRADE DARING then began her preparations for a voyage to the Caribbean and at said time said ship was then tight, staunch, strong and in all respects seaworthy, was well and sufficiently manned, equipped and supplied with all the things needful and necessary for a vessel in the merchant service; that in the preparation for the voyage to the Caribbean, which she was about to undertake, the ship began to take ballast commencing at 2140 hours and commenced to load diesel oil bunkers at 2215 hours from the barge MOBIL TRADER located on her starboard side midships; that the ship remained at the Hess Oil Terminal docked portside to while she continued to take ballast, securing her gear for sea and taking diesel oil bunkers from the MOBIL TRADER; that the bunkering was being accomplished by the MOBIL TRADER pumping the fuel oil through her pumps and hoses to the ship's connecting pipe on the starboard side just aft of the midships house; that at 0000 hours, the Sandy Hook pilot was aboard, the gangway up, and the ship was awaiting completion of bunkering from the MOBIL TRADER and the arrival of the undocking pilot and tugs; that at about 0042 hours on March 18, 1971, the said Third Engineer,

PLAINTIFF'S EXHIBIT 50

THEODOROS BAFALUKOS, instructed those onboard the MOBIL TRADER to "stop pumping" and "finish bunkers" and upon the acknowledgment of the orders from the MOBIL TRADER, said engineer notified the Chief Engineer and thence proceeded to assist prepare the engines for sea; that shortly before 0050 hours, the said Third Engineer observed from a sight glass in the engine room that bunkers were still being pumped into his vessel and that he thereupon immediately returned to the starboard main deck of the vessel aft of the midship house and, with the assistance of said Master, PETROS D. GIALOURAKIS, again instructed those aboard the MOBIL TRADER to cease pumping bunkers onto the TRADE DARING; that the said Master and Third Engineer observed that the speed of the diesel pump on the MOBIL TRADER was reduced and that an adjustment was made on a valve to one of the tanks on the MOBIL TRADER; that the said Third Engineer immediately returned to the engine room and, with the said Second Engineer, observed an overflow of diesel oil from the save-oil collector above the No. 3 port diesel generator; that they observed the diesel oil then pouring down in the vicinity of said generator and that, notwithstanding the attempt of the Second and Third Engineers to stop the generator and cover it from the downpouring diesel oil, the diesel oil burst into flames and commenced a conflagration in the engine room which they were unable to control with the

PLAINTIFF'S EXHIBIT 50

fire extinguishers nearby; that the flames spread rapidly upward, giving off intense heat and much smoke and the said engineers and crew on watch abandoned the engine room; that the fire commenced at about 0052 hours on March 18, 1971 as the undocking pilot was boarding the ship and the undocking tugs were in the vicinity; that the fire spread rapidly with such intensity, heat and smoke that the crew were forced to abandon the aft accomodation area and, except for the closing of the skylights, vents and air access to the aft accomodation house, were unable to contain the fire; that at said time the ship was in danger of explosion because of gaseous fumes in her empty cargo tanks and most of her engineering and her stewards department abandoned ship to shore by descending the Jacob's ladder; that at about 0100 hours, the undocking tugs, GRACE McALLISTER and KATHERINE McALLISTER, came alongside forward and the ship's crew remaining began to secure the tugs and cast off the lines at the bow; that the MOBIL TRADER disconnected her hose line and left the starboard side of the ship; that a fire truck arrived alongside the vessel but it was unable to effectively assist in fighting the fire; that at about 0110 hours, one McAllister tug was made fast ahead and one on the starboard bow and all lines were cast or cut off; that the ship, which had been headed in a northerly direction while docked, was then turned around by the tugs and towed to an anchorage near Ward Point Bend (West) below Perth Amboy

BEST COPY AVAILABLE

PLAINTIFF'S EXHIBIT 50

close to "M." Buoy and there anchored at 0230 hours with four shackles in the water from her starboard anchor; that those who had remained onboard while the fire burned in the engine room and aft accomodation while the vessel was towed to anchorage were the said Master, two pilots, the First and Second Officers, the radio operator and ten crew members; that at about 0240 hours, all those who had remained onboard ship were removed by one of the tugs and transferred ashore.

And these said appearers, upon their oaths aforesaid, do further declare and say that during the said voyage they, together with others of said ship's company, used their utmost endeavors to preserve the said TRADE DARING from all manner of loss, damage or injury. Wherefore the said PETROS D. GIALOURAKIS, Master, has protested, as by these presents, I, the said GERD FLOLO, Notary Public, at his special instance and request, do publicly and solemnly protest, against all and every person or persons whom it may concern, and against all and every accident, matter and thing, had and met with as aforesaid, whereby and by reason whereof the said TRADE DARING already has, or hereafter shall appear to have, suffered or sustained damage or injury. And do declare that all losses, damages, costs, charges and expenses that have happened to the said TRADE DARING are and ought to be borne by those to whom the same by right appertain by way of average, negligence, fault or otherwise, the

PLAINTIFF'S EXHIBIT 50

same having occurred as before mentioned, and not by or through the insufficiency of the said TRADE DARING, her tackle or apparel, or default or neglect of this appearer, his officers, or any of his mariners.

Thus done and protested in the Port of New York this 26th day of March, 1971.

IN TESTIMONY WHEREOF, these appearers have hereunto subscribed their names, and I, the said GERD FLOLO, Notary Public, have granted to the said Master this public instrument, under my hand and seal to serve and avail him, and all others whom it may concern, as need and occasion may require.

Gerd Flolo
GERD FLOLO, Notary Public

GERD FLOLO
Notary Public, State of New York
No. 24-6337250
Qualified in Kings County
Certificate filed in New York County
Commission Expires March 30, 1972

PETROS D. GIALOURAKIS, Master

GRIGORIOS SOFRONIOU, Chief Engineer

ANDREAS SPETSIOTIS, Second Engineer

THEODOROS BAFALUKOS, Third Engineer

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PLAINTIFF'S EXHIBIT 52.

DIRECT TESTIMONY OF MR. DOROS A. ARGYRIADIS
(Naval Architect and Marine Engineer)

My full name is Doros A. Argyriadis. I reside at 3 Stonehenge Road, Morristown, New Jersey. I am a Naval Architect and Marine Engineer. I am the President of Dormanda International Corporation, a firm of Consulting Naval Architects and Marine Engineers and Surveyors. This firm was organized by me in 1961 and incorporated in New Jersey in 1963.

I received a Bachelor of Science in Engineering (Naval Architecture and Marine Engineering) from the University of Michigan in 1952. In 1957, I received a Masters of Science in Engineering - Naval Architecture and Marine Engineering - with a minor in Nuclear Engineering under the Society of Naval Architects and Marine Engineering Graduate Program Scholarship. This degree was also from the University of Michigan. At the time I was attending the University of Michigan to obtain my Masters Degree, I was invited to teach as an instructor, a course in the Economics in Ship Design. I maintained an A minus average during my Undergraduate studies and a straight A average while attending the Horace J. Rockham Graduate School at the University of Michigan.

For a period of time in 1951 and again in 1956-1957, I was engaged as a "model tank" assistant at the University of Michigan. The University of Michigan has "model tank" facilities

that are probably the most complete and elaborate of any such facilities at any university in the United States. These facilities are used to test models for resistance and self-propulsion, as well as behavior characteristics under induced wave patterns, shallow draft behavior etc. My professional experience following the receipt of my degree from the University of Michigan in 1952 commenced with employment by the Bethlehem Steel Corporation at the Quincy, Massachusetts, shipyard in the Design and Construction Division. From 1953-1955, I served in the United States Army Transportation Corps as the Field Engineer Representative of the United States Army Transportation School. From 1955-1956, I was engaged as Design Engineer for M. Rosenblatt & Sons, a firm of Naval Architects and Marine Engineers, in New York. This work involved design and construction of United States Coast Guard and Naval vessels, as well as commercial craft.

As mentioned above, in 1956 and 1957 I was in attendance at the University of Michigan. From 195 to 1961, I was engaged by John J. McMullen Associates in New York as Chief Engineer and Chief Naval Architect. I had direct and primary responsibility for all of the work of the office. This work included studies and preliminary design for the construction and conversion of vessels for major American ship operators.

I became a member of the Society of Naval Architects and Marine Engineers, New York, in 1952 and was formerly a member of the Royal Institute of Naval Architects, London. I

have had major technical papers published in the proceedings of both of these professional societies including papers on the subject of "Cargo Containerships" and "Modern Tug Design" with reference to maneuverability and endurance. The former article received first prize at the May, 1959 meeting of the Royal Institute. The article on "Modern Tug Design" has been favorably received and cited in studies performed at U.S. Government model testing facilities.

The work of Dormanda International Corporation which as I mentioned above, was founded in 1961, involves all categories of work in the field of Naval Architecture and Marine Engineering. This work has included design and supervision of the conversion of tankers to container vessels, the conversion of standard dry cargo vessels to "roll-on, roll-off" vessels for a major American flag ship operator, the conversion of passenger vessels to luxury cruise ships and the conversion of tankers to 25,000 TDW bulk carriers etc. The work also includes design and supervision of construction of a 150,000 TDW tanker, several smaller tankers and the design and construction of numerous general cargo vessels and tramp vessels of approximately 14,000 TDW, as well as the construction of smaller "roll-on, roll-off" vessels and chemical tankers. The work of the firm includes attending purchase surveys on behalf of clients for prospective purchasers, preliminary to contracts for purchase of vessels. The work includes attendance on behalf of owners generally at

PLAINTIFF'S EXHIBIT 52

major repairs of the vessels. The function of the firm also includes providing technical advice and consultation to clients, including economic and technical feasibility studies for planned or projected vessel operations. Other major work included a study layout and economic and technical analysis of a shipyard complex in Greece. Another was a layout and economic and technical analysis of a natural gas and off-shore oil operation in Greece.

The design of a vessel includes design of the bunkering, venting and save-all systems and knowledge of the Rules of the Classification and regulatory authorities under which the vessel will operate. Proper design also requires knowledge of the procedures for operating and maintaining such systems.

I am personally familiar with the vessel the TRADE ING. In 1970 I attended aboard the TRADE DARING to conduct the pre-purchase survey while the vessel was in Narvik. Later in 1970, I attended the vessel upon delivery to the owners while she was in dry dock in Emden. In May, 1970, after delivery, Dormanda performed longitudinal strength and trim and stability studies of the TRADE DARING, preliminary to obtaining International Load Line 1966 Certification. These studies were performed under my general supervision and were reviewed by me. In July, 1970, a preliminary study was made for conversion of the vessel to obtain an increased load line allowance, but as a result of this study, the con-

PLAINTIFF'S EXHIBIT 52

version was not undertaken because it did not appear to be econimically feasible.

In 1971, before the fire, I attended the vessel while she was in Emden as representative of the owner at the annual load line and classification inspection. After the fire on March 18, 1971, I attended on board the vessel as soon as she was brought into the Bethlehem Steel shipyard in Hoboken and participated in a complete survey of the damage that had been sustained as a result of the fire. I have attended on board the TRADE DARING at various times thereafter in connection with the repair of the damage caused by the fire.

As a result of my personal attendance on board the TRADE DARING and a study of the various ship's plans and drawing, I am fully familiar with the vessel's venting systems for cargo and fuel tanks, her save-all systems and her fuel oil tank and piping arrangement and her fire-fighting equipment.

The M.V. TRADE DARING is a combination oil/ore carrier which was built in 1955 to the classification standards of American Bureau of Shipping and Germanischer Lloyd.

After the time the vessel was purchased from the former German owner by Navieros Oceanikos, S.A., the classing of the vessel with Germanischer Lloyd was not continued. When the fire occurred, the vessel was classed solely with the American Bureau of Shipping.

The M.V. TRADE DARING could utilize three grades

of fuel oil: Bunker-C for boiler service, marine diesel oil for main engine propulsion and gas-oil for generators. At the time of the fire, marine diesel was being utilized for the generators.

Diesel oil was carried in two side tanks, two settling tanks, two day tanks, and could also be carried in two forward deep tanks. Diesel oil was also carried in the gas-oil tank. Diesel oil is not normally carried in the overflow double-bottom tanks except for drippings and returns from the main engine and auxiliary generators through the leakage collection tank as well as the save-all system and whatever is received into the overflow systems. As long as the vessel's engines and generators are operating, there will be a steady flow or dripping return into the leakage collection tank and depending on amount, may also go into the overflow double-bottom tanks. Some overflow into the overflow tank may also occur when transferring fuel to fill the respective tanks and the gas oil day tank.

Each side tank, settling tank, the Bunker-C tank, the gas-oil tank and the gas-oil day tank had an overflow pipeline leading to the overflow-double-bottom tanks; the diesel oil day tanks connect to the settling tanks as an overflow precaution or may overflow to the collection basin of the settling tanks and from there through the leakage tank to the overflow tank.

During bunkering, the inflow of bunkers is monitored at the receiving tank to allow immediate communication with, and immediate control by, personnel at the pumps of the bunkering facility. In this instance, control of bunkering of the TRADE DARING was exercised at the pumps of the bunkering

vessel, the MOBIL TRADER. On the other hand, sight glasses are situated at the lowest level of the engine room where the fuel transfer pumps are located and are utilized to detect an overflow during transfers between tanks.

A venting system, such as that of the TRADE DARING, is built into any tank, double-bottom or cofferdam, to allow for the escape or ingress of air when the void is filled or emptied. Without vents, the pressure of gas or liquid may rupture the tops or sides of tanks.

The TRADE DARING's venting system was designed in such a way that the only openings were above deck level for the escape or venting of gases to the atmosphere. No ignitible gases or fuel oil could possibly be discharged into the engine room of the TRADE DARING through the vent system under any circumstances.

The design and construction of the fuel oil tanks, including deep tanks, service and settling tanks, and overflow tanks and the venting, overflow and save-all systems of the TRADE DARING were in full and in complete compliance with the classification requirements of the American Bureau of Shipping and would be in compliance with the 1971 requirements of the Bureau. They were also in compliance with existing United States Coast Guard regulations to the limited extent applicable to this foreign flag vessel. None of these tanks or systems presents any feature which would be in need of modification even by today's requirements.

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The installation of suitable drip pans on tanks such as on the gas-oil day tank of the TRADE DARING is fully in conformity with the requirements of the American Bureau of Shipping.

The fire fighting and safety equipment on board the vessel at the time of the fire was in conformity with or in excess of any requirements of the American Bureau of Shipping.

The TRADE DARING, at the time of the fire, was fully in class and there were no outstanding recommendations or notations as regards the vessel's fuel oil tanks, including deep tanks, service and settling tanks and overflow tanks or the venting, filling, sounding and overflow systems or the save-all system.

Taking as a fact that the Third Engineer of the TRADE DARING ordered the MOBIL TRADER to stop pumping at 0042 and that at about 0050, the MOBIL TRADER was still pumping when it was again ordered to stop pumping by the Master and the Third Engineer of the TRADE DARING and based on the delivery rate of approximately 3-1/3 tons per minute by the MOBIL TRADER, the MOBIL TRADER would have pumped more than 26 tons of diesel oil during the approximately 8 minute interval. This caused a grossly excessive overflow of the side tanks. This overflow exceeded the available capacity of the double-bottom overflow tanks.

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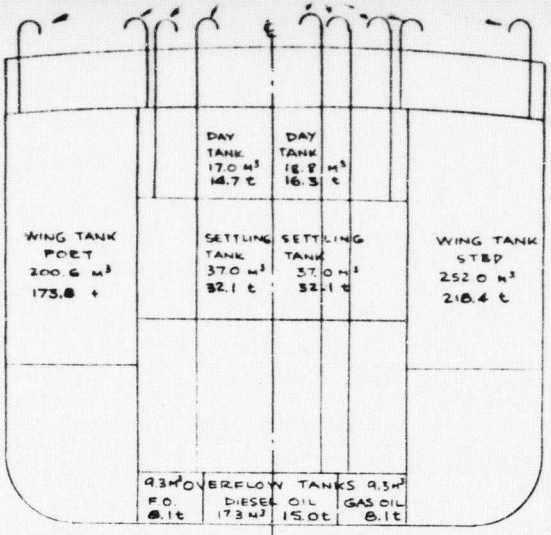
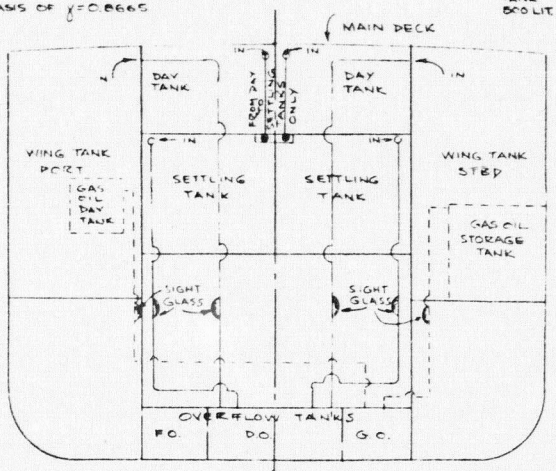
It is apparent that the fire which occurred on the TRADE DARING was a direct result of, and was proximately caused by, an excessive quantity of bunkers being pumped on board the vessel by the bunkering facility, MOBIL TRADER, thereby causing the overflow of bunkers into the overflow double-bottom tanks which then rose through the leakage tank and the save-all piping to the basin of the turbo-filters and the gas-oil day tank finally falling onto the No. 3 generator and igniting the bunkers which resulted in the fire on board the TRADE DARING. This is illustrated on the "no scale", schematic diagram, No. 1007 attached, where, in the lower right-hand quadrant, the entry of the bunkers at the point labelled "Fill From Deck" can be seen and the course of the flow followed through the "Overflow Line", past the "Sight Glass" into the "Overflow Tanks", thence through the "Valve Chest" and the "Leakage Tank" (See Detail "A") up the "Save-All Pipe" and gushing over the "Save-Alls" to spill on the "Diesel Generator Working" below.

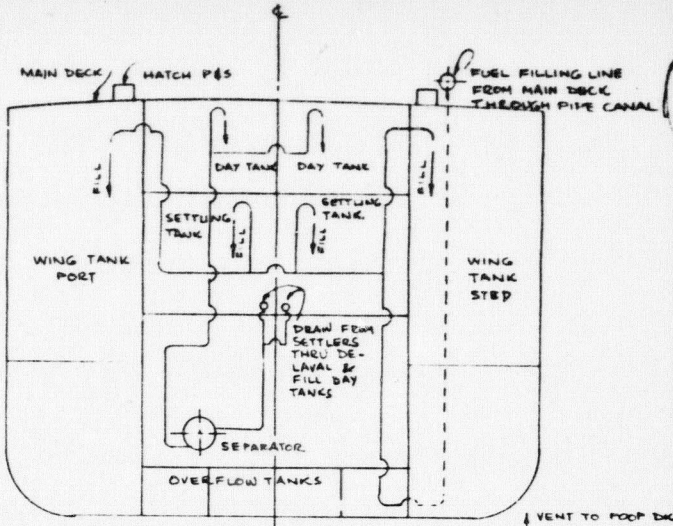


VENTING SYSTEM

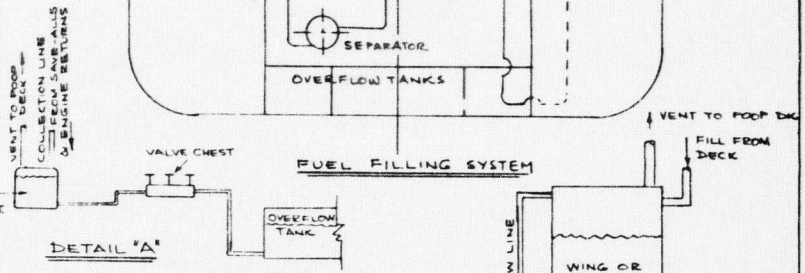
NOTE: TANK CAPACITIES BASED ON 98% FULL TONNAGE ESTIMATED ON BASIS OF SF=0.8665



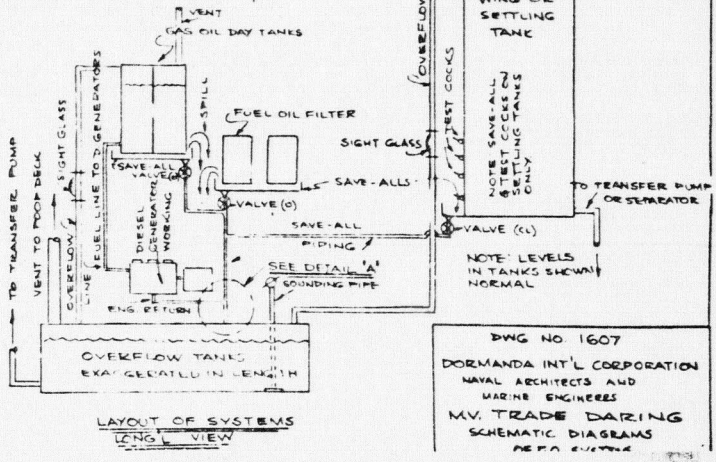
OVERFLOW SYSTEM



FUEL FILLING SYSTEM



DETAIL "A"



LAYOUT OF SYSTEMS LONG. VIEW

DWG NO 1607
DORMANDA INT'L CORPORATION
NAVAL ARCHITECTS AND MARINE ENGINEERS
M.V. TRADE DARING
SCHEMATIC DIAGRAMS
DE-FO SYSTEMS

53

PLAINTIFF'S EXHIBIT 53.

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

RECEIVED
APR 28 1971
MER. MARINE SAFETY DIV.
THIRD CG DISRICT

Address reply to:
Officer in Charge
Marine Inspection
Battery Park Bldg.
New York, N.Y. 10004

5943/027740 PJC
23 April 1971

From: Investigating Officer, New York
To: Commandant (MVI)
Via: (1) Officer in Charge, Marine Inspection, New York
(2) Commander, Third Coast Guard District (m)

Subj: M/V TRADE DARING, O.N. 3505 (Liberian Flag); engine room fire, Perth Amboy, N.J. on 18 March 1971

1. Investigation of subject case is complete. A narrative report will not be submitted.

2. The proximate cause of the casualty was that an operating generator ignited diesel fuel which spilled onto it from a catch basin which overflowed. The vessel was being refueled when the bunker tanks overflowed to an overflow tank in the engine room double bottoms. Drains connected to the overflow tank backed up to the catch basins which filled up with diesel oil.

3. The vessel was towed to Bethlehem Shipyard, Hoboken, N.J. for survey.

4. There being no substantive evidence of negligence, misconduct, incompetence, or violation of federal law on the part of Coast Guard licensed or certificated personnel, it is recommended that no further action be taken and the case be closed.

P. J. CRONK
LCDR, USCG

Encl: (1) CG 2692 M/V TRADE DARING
(2) Sketch of overflow system

23 April 1971

FIRST ENDORSEMENT on I.O. rpt 5943/027740

From: Officer in Charge, Marine Inspection, New York
To: Commandant (MVI)
Via: Commander, Third Coast Guard District (m)

1. Forwarded, approved.

CRONK:ko 4/23/71

H. J. HAYES
By direction

PLAINTIFF'S EXHIBIT 53

27	CREW	PASSENGERS	OTHER (Specify)
NUMBER ON BOARD			39
DEAD/MISSING			-0-
INCAPACITATED (over 3 days)			-0-

28	
ESTIMATED LOSS/DAMAGE TO YOUR VESSEL	$3,113,000
ESTIMATED LOSS/DAMAGE TO YOUR CARGO	$ -0-
ESTIMATED LOSS/DAMAGE TO OTHER PROPERTY (Specify whether vessel, dock, bridge, etc.)	$ -0-

29. NATURE OF THE CASUALTY (Check one or more of the following. Give pertinent details in Item 30.)

	COLLISION WITH OTHER VESSEL(S) (Specify)		EXPLOSION/FIRE (Other)
			GROUNDING
			FOUNDER (Sinking)
	COLLISION WITH FLOATING OR SUBMERGED OBJECTS		CAPSIZING WITHOUT SINKING
	COLLISION WITH FIXED OBJECTS (Piers, bridges, etc.)		FLOODING, SWAMPING, ETC., WITHOUT SINKING
	COLLISION WITH ICE		HEAVY WEATHER DAMAGE
	COLLISION WITH AIDS TO NAVIGATION		CARGO DAMAGE (No vessel damage)
	COLLISION (Other)		MATERIAL FAILURE (Vessel structure)
	EXPLOSION/FIRE (Involving cargo)		MATERIAL FAILURE (Engineering machinery, including main propulsion, auxiliaries, boilers, evaporators, deck machinery, electrical, etc.)
X	EXPLOSION/FIRE (Involving vessel's fuel)		
X	FIRE (Vessel's structure or equipment)		EQUIPMENT FAILURE
	EXPLOSION (Boiler and associated parts)		CASUALTY NOT NAMED ABOVE
	EXPLOSION (Pressure vessels and compressed gas cylinders)		

30. DESCRIPTION OF CASUALTY (Events and circumstances leading to casualty and present when it occurred. Attach diagram and additional sheets, if necessary)

(See copy of Master's Protest annexed hereto) Investigation of the casualty reveals that an overflow of the vessel's bunker tanks occurred while being refueld with diesel oil by the M/V MOBIL TRADER. The overflow entered an overflow tank in the double bottom of the engine room. When the overflow tank filled up, diesel oil backed up through a catch basin drain which runs to the double bottom tank. The catch basin overflowed spilling diesel oil on an operating generator. Diesel oil fumes flashed and the fire spread rapidly due to a supply blower duct above the generator. Flames engulfed the engine room and spread to the after superstructure.

31. DAMAGE (Give brief general description and state if vessel is a total loss.)

Vessel's engine room and superstructure aft burned out.

Vessel is constructive total loss.

III ASSISTANCE AND RECOMMENDATIONS

32. AUTO ALARM TRANSMITTED BY YOUR VESSEL: ☐ YES ☐ NO n/a

33(a) ASSISTANCE RENDERED BY STATIONS AND VESSELS (Include Coast Guard and other stations and vessels)

(b) OTHER ASSISTANCE RENDERED

Tug vessels GRACE MCALLISTER, HELEN TURECAMO, HELEN MCALLISTER and TROY towed vessel from dock to safe anchorage. Firefighting efforts were conducted by the CGC MAHONING, CGC MANITOU, the New York City fireboats MARINE NINE, MARINE TWO and firetender SMOKE. Coast Guard utility boats CG 40472 and 40465 responded to the scene.

34. RECOMMENDATIONS FOR CORRECTIVE SAFETY MEASURES PERTINENT TO THIS CASUALTY (Include explanation of unsatisfactory lifesaving equipment)

TITLE	SIGNATURE
MASTER	[signature]

GPO 937-047

DEPARTMENT OF TRANSPORTATION
U. S. COAST GUARD
CG-2692 (Rev. 3-67)

REPORT OF VESSEL CASUALTY OR ACCIDENT

Form Approved Budget Bureau No. 48-R114.5

REPORTS CONTROL SYMBOL MVI-4017

INSTRUCTIONS

1. An original and two copies of this form shall be submitted, without delay, to the Officer in Charge, Marine Inspection, in whose district the casualty occurred, or in whose district the vessel first arrived after such casualty.
2. If the person making the report is a licensed officer on a vessel required to be manned by such officer, he must make the report in writing and in person to the proper Marine Inspector. If because of distance it may be inconvenient for such an officer to submit the report in person, he may submit the required number of copies by mail. However, to avoid delay in investigations, it is desired that reports be submitted in person.
3. This form should be completed in full; blocks which do not apply to a particular case should be indicated as "NA". Where answers are unknown or none, they should be indicated as such. All copies should be signed.

NOTE: (1) Report all deaths and injuries, which incapacitate in excess of 72 hours, on CG-924E whether or not there was a vessel casualty.
(2) Attach separate Form CG-924E to this report for each person killed or injured and incapacitated in excess of 72 hours as a result of the vessel casualty reported herein.

TO: Officer in Charge, Marine Inspection, Port of New York

DATE SUBMITTED: April 2, 1971

I PARTICULARS OF VESSEL

1. NAME OF VESSEL	2. OFFICIAL NUMBER	3. HOME PORT	4. NATIONALITY
TRADE DARING	3505	Monrovia	Liberia

5. TYPE OF VESSEL (Frt., pass., tkr., etc)	6. PROPULSION (Steam, diesel, etc)	7. GROSS TONNAGE	8. REGISTERED LENGTH OR L.O.A
Ore/Oil	Diesel	15510	607' - 5"

9. HULL MATERIALS	10. YEAR BUILT	11. RADIO EQUIPMENT
Steel	1955	☒ TRANSMIT ☒ RECEIVE ☐ VOICE ☐ CW (Key)

12. (a) RADAR EQUIPPED	(b) IF YES, RADAR OPERATING AT TIME OF CASUALTY
NA ☐ YES ☐ NO	☐ YES — ☐ NO

13. (a) CERTIFICATE OF INSPECTION ISSUED AT PORT OF	(b) DATE CERTIFICATE OF INSPECTION ISSUED
NA	—

14. (a) NAME OF MASTER OR PERSON IN CHARGE (Indicate which)	(b) DATE OF BIRTH	(c) LICENSED BY COAST GUARD
Petros D. Gialourakis, Master	1933	☐ YES NA ☐ NO

15. (a) NAME OF PILOT (If on board at time of accident)	(b) PILOT SERVING UNDER AUTHORITY OF LICENSE ISSUED BY
NA	☐ USCG — ☐ STATE ☐ FOREIGN

16. (a) NAME OF OWNER(S), OPERATOR(S) OR AGENT (Indicate which)	(b) ADDRESS OF OWNER(S), OPERATOR(S), OR AGENT
Navieros Oceanikos, S.A.	Panama

II PARTICULARS OF CASUALTY

17. (a) DATE OF CASUALTY	(b) TIME OF CASUALTY (Local or zone)	(c) ZONE DESCRIPTION	(d) TIME OF DAY
3/13/71	0052 LCT	+5	☐ DAY ☒ NIGHT ☐ TWILIGHT

18. LOCATION OF CASUALTY (Latitude and longitude; distance and TRUE bearing from charted object; dock; anchorage; etc.)
Vessel alongside Hess Oil Terminal, Perth Amboy, New Jersey

19. BODY OF WATER (Geographical name)	20. RULES OF THE ROAD APPLICABLE
Arthur Kill	☐ INLAND ☐ GREAT LAKES ☐ WESTERN RIVERS ☐ INTERNATIONAL ☐ OTHER (Specify) NA

21. (a) DID CASUALTY OCCUR WHILE UNDERWAY: ☐ YES ☒ NO

(b) IF YES, LAST PORT OF DEPARTURE	(c) IF YES, WHERE BOUND WHEN CASUALTY OCCURRED
—	—

22. (a) WEATHER CONDITIONS WHEN CASUALTY OCCURRED:
☐ CLEAR ☐ PARTLY CLOUDY ☐ OVERCAST ☐ FOG ☐ RAIN ☐ SNOW ☐ OTHER (Specify)

(b) VISIBILITY (Miles, yds., ft., etc.)	(c) WIND DIRECTION	(d) FORCE IN KNOTS	(e) GUSTY	(f) AIR TEMPERATURE
10 miles	NW	20	☒ YES ☐ NO	30°F

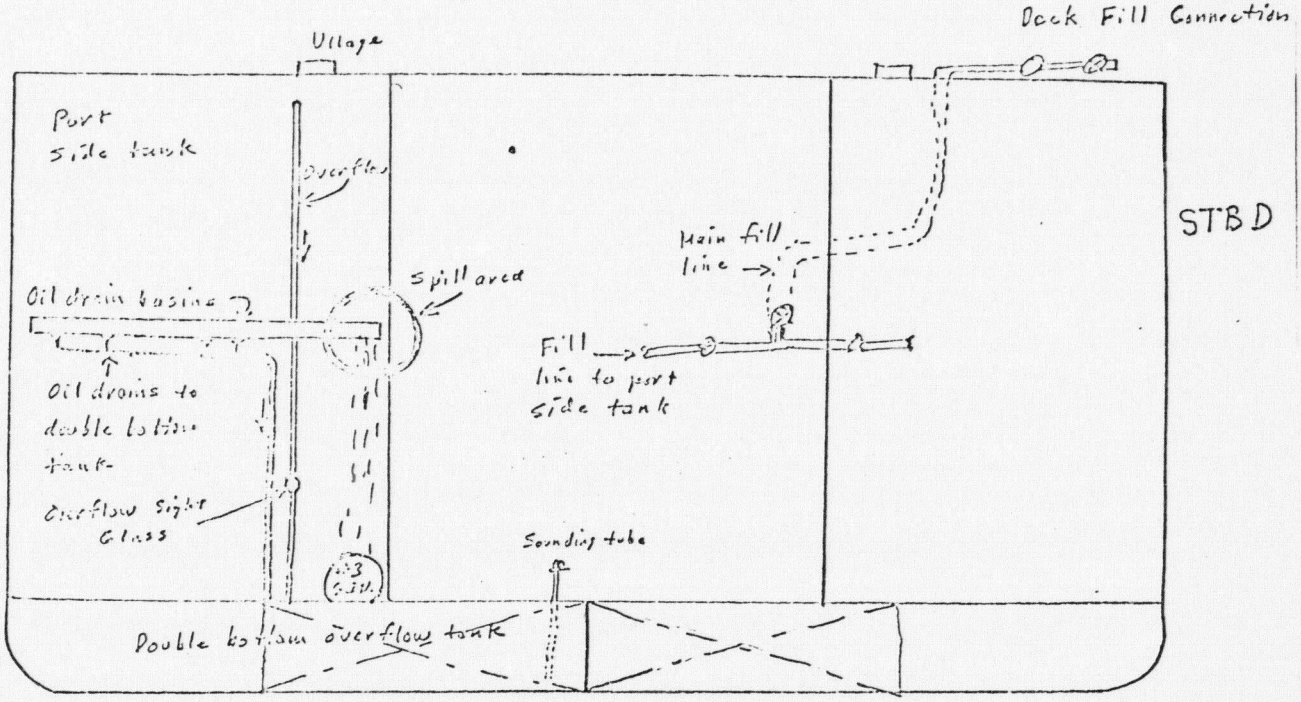
23. (a) SEA CONDITIONS WHEN CASUALTY OCCURRED	(b) SEA WATER TEMP (If available)	(c) HEIGHT OF SEA	(d) DIRECTION OF SEA	(e) HEIGHT OF SWELL	(f) DIRECTION OF SWELL
NA	—	—	—	—	—

24. (a) NATURE OF CARGO (Specify)	(b) AMOUNT OF DRY CARGO (Long tons)	(c) AMOUNT OF BULK LIQUID (Long tons)	(d) AMOUNT OF DECK LOAD (Long tons)
NA	—	—	—

25. (a) DRAFT FORWARD	(b) DRAFT AFT
2' - 0"	20' - 0"

26. (a) TYPES OF LIFESAVING EQUIPMENT USED, IF ANY	(b) NO. LIVES SAVED WITH LIFESAVING EQUIPMENT	(c) LIFESAVING EQUIPMENT SATISFACTORY
NA	—	☐ YES ☐ NO (If no, explain in Item 34) —

MV TRADE DARING



PLAINTIFF'S EXHIBIT 53
234

SECTION VIEW FORWARD
Through Engineroom

Note: Vessel had small list to starboard

PLAINTIFF'S EXHIBIT 58.

MR. DALY: Lieutenant, you mentioned that the witness is here at the instigation of the parties. Is he under subpoena?

LT. COLLOM: No. I will strike the word "instigation." At the request of the parties.

MR. DALY: On behalf of the defendants.

LT. COLLOM: Whoever noticed the deposition.

MR. WAESCHE: It is the defendant.

EXAMINATION

BY MR. WAESCHE:

Q Would you state your full name, please?

A Peter J. Cronk.

Q Where do you presently reside, Mr. Cronk?

A I reside in New Orleans, at 2520 Eton Street.

Q Mr. Cronk, by whom are you employed presently?

A By the Coast Guard. I am a Commander in the Coast Guard.

Q The U.S. Coast Guard?

A Yes.

Q What has been your formal education?

A I am a graduate of the United States Coast Guard Academy in 1958, with a degree of Bachelor of Science

in Engineering.

Q What is your present age?

A It is 39.

Q What duties have you had with the United States Coast Guard since your graduation from the Academy in 1958?

A I have had five years of sea duty which included deck and engineering duty, part of the engineering duty was as engineer officer of a Coast Guard cutter.

Q When you say engineer officer, does that mean that you are in overall supervision and command of the engine room of the ship?

A That's correct.

Q What cutter was it that you were an engine officer?

A The Coast Guard Cutter MENDOTA, which was stationed in Wilmington, North Carolina.

It is 255 feet.

Q Is that the largest cutter in the Coast Guard?

A No.

Q Is there one larger?

A Since I was on there, they have a new class of cutters, 378 feet.

PLAINTIFF'S EXHIBIT 58
Cronk 7

tion duties.

This was a four-month school.

Q Who ran the school?

A The Coast Guard.

Q On or about March 18, 1971, were you acting as a Coast Guard marine inspector in the New York District?

A At that time I was acting as an investigating officer in the Marine Inspection Office in New York.

Q What are the duties of an investigating officer?

A He is responsible for ascertaining the causes ofa casualty that he is investigating.

Q Are there any further duties?

A Included in this is determination if there is any violation of law on the part of owners, operators or any negligence or misconduct or incompetence of licensed or certified personnel, personnel who have been licensed or certificated by the Coast Guard.

Q While you were in New York as a marine investigator, for the Marine Inspection Department, were you assigned to investigate a fire which occurred on board a vessel called the MV TRADE DARING, which occurred on or about March 18, 1971?

PLAINTIFF'S EXHIBIT 58

A Yes, I was.

Q Who assigned you to that duty?

A The senior investigating officer, Commander Hayes, assigned me.

Q Upon your assignment, did you board the TRADE DARING?

A I boarded the TRADE DARING during the course of my investigation of this casualty.

Q Do you presently remember exactly what date it was that you boarded the TRADE DARING?

A I can't recall exactly, it was not the 18th. She was at anchor still burning or smouldering, but I was able to board her a week, approximately a week, to the best of my recollection, a week later.

Q Where was the TRADE DARING when you boarded the ship?

A It was tied up at Bethlehem Shipyard in New Jersey.

Q What was the purpose of your boarding the vessel?

A The purpose to board the vessel was to examine the vessel to see if I could determine what happened, what happened in regard to the fire.

Q What did you do when you boarded the

PLAINTIFF'S EXHIBIT 58

vessel?

A I examined the hull and piping systems and machinery of the vessel.

Q When you say piping systems and machinery, do you mean the piping systems in the engine room?

A Yes. I examined the piping especially connected to the fuel oil systems, the fuel oil tanks, the vents, piping systems connected to double bottom tanks, vents, and other pieces of equipment, and apparatus which are involved in the fuel oil system, transverse systems and drain systems; I examined anything connected with the fuel oil.

Q Following your investigation, or following your examination of the fuel system, including all lines attached thereto, did you prepare a diagram?

A Yes, I did.

(Continuing on next page.)

PLAINTIFF'S EXHIBIT 58

Q I show you what has been marked as Exhibit 53 for identification, for trial purposes, which consists of three pages and I ask you if the third page which I now put before you is a copy of the diagram which you drew?

A Yes. This appears to be a copy of the drawing that I made for this investigation.

Q I notice that you have a caption, "Oil drain basins." What were the oil drain basins that you found?

A I noticed on the forward end of the engine room on the port side, there were one or more basins, which were, they were connected over deck areas with coamings around the engine whose purpose was to catch any oil that may have, fuel oil, that may have dripped from the certain pieces of equipment involving the fuel systems, like fuel oil filters, and day tanks and such, which were located on a upper level of the port side of the engine room.

Q Were the basins located under the day tanks and under the filter systems?

A Yes.

Q Were there any lines running from these basins?

PLAINTIFF'S EXHIBIT 58
Cronk 11

A Connected to the bottom of the basin were drain openings which were piped to a common line that lined then down to a tank top in the engine room bilges.

Q On the diagram before you, I notice one, two, three, four lines, are those the drains from the basins to which you refer?

A Yes, sir.

Q Do you know that they are exactly four or not less than four?

A That represents several. It may not be, there may have been more than four.

Q You have labeled one of them, have you not, oil drains to double-bottom tanks?

A That's correct.

Q We will run that off and mark it with an "X".

Then you have a line leading from the drains down to a double-bottom, have you not?

A That's correct.

Q Is that the common line to which you referred connected to all of the drains from the basins?

A Yes.

Q Supposing I just fill in that line with

PLAINTIFF'S EXHIBIT 58

a black ink pen?

A Yes.

Q Have I done so?

A Yes. That is an indication of the line.

Q In the course of your inspection of this vessel did you trace that line from the oil drains directly to the bottom overflow tank?

A Yes, I did.

Q Were there any, did you notice any valves in that line?

A No. I did not see any valves in the line.

Q Did a line go through any small tank before entering the double-bottoms?

A No, it did not.

Q Did the line go through any system of a valve chest before it entered the double-bottom?

A No, it did not.

Q What was the purpose of that line?

A The purpose was to keep the drain basins from accumulating oil, it provided a means for getting rid of the oil that may have been caught by the drain basins, and delivering it to an overflow tank.

Q The double-bottoms --

A This particular tank in the double-bottom.

PLAINTIFF'S EXHIBIT 58

Q If you had noticed any valves, would you have indicated them on the drawing which is before you?

A Yes, I would have.

Q Had you noticed any small tank through which the line led before it entered the double-bottoms, would you have noted it on your diagram?

A Yes.

Q With that type of a system, what would happen if the double-bottom tanks were filled to capacity or actually in excess of capacity.

MR. DALY: Are you requesting an opinion?

MR. WAESCHE: No. It is a fact.

A This line opened to a tank.

Q What tank?

A If the double-bottom tank to which this drain line filled up, and continued to fill up, oil would back up through the same line and if it -- oil kept going into the double-bottom tank, overflowing, it would continue to back up until it entered the drain basin.

Q Then what would happen?

A If this process continued the drain basins would overflow.

PLAINTIFF'S EXHIBIT 58
Cronk 14

Q Is that type of system in accordance with the United States Coast Guard Regulations?

MR. DALY: I object. It calls for a conclusion.

MR. WAESCHE: I don't believe that it does. I believe that that is factual.

MR. DALY: Ask for an interpretation of the law applied to this system. It is not what the witness saw or heard or what he did.

LT. JONATHAN COLLOM: I was about to object to the same question.

BY MR. WAESCHE:

Q Does that type of system in your opinion comply with standards of safety in the marine engineering industry?

MR. DALY: Same objection. Let the record show that the witness's counsel concurs with the objection.

LT. COLLOM: I do.

Q Commander, I show you the first page of Exhibit 53 for identification, would you tell me what that is?

A The first page is a short form narrative report, it is a short form report concerning the investigation

PLAINTIFF'S EXHIBIT 58

of the TRADE DARING.

Q Did you write that report?

A Yes, I did.

Q Did you write that report at the conclusion of your investigation?

A Yes.

Q To whom did you submit the report?

A That was submitted to the Commandant via the chain of command which included my investigating officer, the officer in charge of marine inspection of the New York Marine Inspection Office, and the Commander Third Coast Guard District.

Q Was the report approved by the Commandant?

A Yes. The report was approved by the Commandant.

Q Commander, I now place before you what has been previously marked as Trial Exhibit 52A, which purports to be a schematic diagram of the various fuel oil tanks, drains, overflow lines, of the TRADE DARING (referring).

Specifically, I call your attention to that portion of the diagram which says "fuel oil filter". Do you see that?

A Yes.

Q Then there is a line, horizontal, with

PLAINTIFF'S EXHIBIT 58

two vertical lines at the end, which says, "save-all".

A Yes.

Q Are the save-alls the basin to which you referred to in your testimony and on your diagram?

A I would presume, according to this arrangement, it is the same. Save-alls is the same as the catch basin.

Q I notice there is a line coming down from the save-all marked valve. I will underline the valve.

Did you notice such a valve when you inspected the system?

A No, I did not.

Q Then, if you will follow that line where the valve is down you will see a circle, do you see it?

A Yes.

Q It says "CD detail A". Detail A is in the middle of this diagram, 52A, and it indicates that the drain line which I will mark with an X goes to a leakage bank, and through a valve chest before it goes into the overflow?

A That's what the diagram says.

Q Did you see such a leakage tank or valve

PLAINTIFF'S EXHIBIT 58

chest when you inspected the line?

A No, I saw no such arrangement in the drain line which I examined, or pictured on my drawing.

MR. WAESCHE: Thank you very much. I have no further questions at this point.

EXAMINATION BY

MR. DALY:

Q Have you been served with a subpoena in this matter?

A No.

Q Have you spoken to Mr. Waesche or Mr. Juliano or any representative of the office of Bigham, Englar, Jones & Houston concerning this matter before today?

A Yes, I have.

Q Who did you speak to for the first time?

A Mr. Juliano, the first time.

Q When did you first speak to him?

A It is about, approximately, three weeks ago.

Q Where did you speak to him?

A That was in New Orleans, when he called from New York.

Q About how long did you speak to him on that occasion?

PLAINTIFF'S EXHIBIT 58
Cronk

They were varying in size, actually the main line here was approximately one inch.

Q What was the size of the vent lines coming from the double-bottom tanks?

A I didn't pay any particular attention to the vent lines, all I did was to see if -- what the arrangement was. It appeared to be normal vent lines, standard vent lines.

Q I note on your diagram you have these oil drain basins at least what appears from this perspective to be around the port side tank, is that correct?

A Yes.

This is a schematic drawing and it is not -- it doesn't indicate all the basins, it indicates those on the port side, schematic.

Q Was there one or more basins around the port side tank?

A Yes.

Q Did you examine the starboard side tank?

A I examined that, the whole engine room.

Q Was there a basin around the starboard side tank?

A At this point, I only had my diagram to refresh

PLAINTIFF'S EXHIBIT 58
Cronk 26

4/2 sketch.

A I examined the tank, and I saw its relationship to the general layout, at least on the port side. I can remember the port side particularly.

As far as being in proper order, it looked like there wasn't any damage to them or anything of that sort. I can say they appeared to be in proper order. Whether they were actually, I don't know how to interpret your meaning of proper order.

If they appeared to be intact, in the way originally built, they appeared to be that way, yes.

Q In the course of discussing this matter with Mr. Juliano and Mr. Waesche, did they show you a copy of this sketch (Referring) which was prepared by Mr. Juliano, marked Trial Exhibit 11?

A No. This is the first time I have seen this drawing.

Q According to this sketch, it appears that a drain from this scupper is leading into a vent line, did you see any such connection or marrying between drain lines and vent lines in the course of your inspection?

A In this configuration, I can't recall. I do not have that in my diagram, and that is as far as

PLAINTIFF'S EXHIBIT 58
Cronk 27

4/3

I can remember, there was a direct drain from these -- from the basin down to the tank top, and that's where I showed whether there was a connection to the vent as shown in this diagram. I cannot recall.

Q You would have noted such a connection if you had seen it, would you not, because that would be a matter of involving the drain line that you were interested in, isn't that so?

A I think I would have shown any connection attached to the line, yes.

Q Was it correct that you were a marine investigating officer for over seven years?

A No. I have been a marine inspector for seven years. Investigating officer is just one function of the marine inspector.

Q How long were you an investigating officer?

A Prior to this occurrence?

Q All told.

A One year.

Q How long had you been an investigating officer prior to this occurrence?

A That was March of '71 -- eight months.

Q The Coast Guard cutter you served on, which I believe was the MENDOTA, what type of engines did

PLAINTIFF'S EXHIBIT 58
Cronk 30

cussing this matter with Mr. Juliano or Mr. Waesche, did they exhibit to you Plaintiff's Exhibit 34, which I now show you, which is the builder's plan of the vent system of the TRADE DARING?

A No, no, they had not.

Q Are you able to identify the vent line on this diagram or on this drawing as those you saw on the TRADE DARING?

A It is hard to say whether these were the actual lines I saw on this ship or not, because I can't recall exactly how they ran any more at this point.

The only way that I can ascertain for sure is to have a diagram with me when I was on the vessel.

Q While you were on the vessel, did you ask the master or the engineer or anyone else for plans of the vessel?

A No, I did not.

MR. DALY: I trust that it will not be necessary to mark Plaintiff's Exhibit 34, and counsel will agree that it was the Exhibit 34 that was presented to the witness?

MR. WAESCHE: Certainly.

BY MR. DALY: (Continuing.)

Q I show you Trial Exhibit 54, Commander,

PLAINTIFF'S EXHIBIT 58

side tanks, were there lines--

MR. JULIANO: Objection.

A I am not sure what you mean?

Q You have a port side tank indicated on your diagram?

A Yes.

Q And now I am referring to a tank on the starboard side.

A The port side tank refers to the after bulkhead of the port bunker. It was one also on the starboard side, I did not show that.

Q Did the starboard side tank also have an oil drain basin around it?

A There is a little confusion here in terms, because I don't know whether you are talking about the bunker tank or a day tank.

Q A bunker tank.

A The bunker tank didn't have a catch basin around it.

Q This port side tank did have a basin around it, is that correct?

A The problem is schematic. The port bunker tank indicated port side tank in that case on the drawing, it was built into the hold. There was no catch basin.

PLAINTIFF'S EXHIBIT 58

Q During your conference with Mr. Waesche and Mr. Juliano, did they present to you Trial Exhibit 62, or a copy of it (handed)?

A Yes. I have seen that before.

Q You have seen this diagram before?

A Yes.

Q When did you see that diagram for the first time?

A They sent me a copy of my investigative report and they included this with the report.

Q Did they send you a letter with that?

A No response.

Q A cover letter?

A A cover letter, yes.

Q Do you have the letter with you?

A I am not sure if I brought it with me.

MR. DALY: Off the record.

(Discussion off the record.)

MR. DALY: I ask that this letter, with attachments be marked Trial Exhibit 56.

LT. COLLOM: That is the personal copy.

MR. DALY: The letter and attachments.

LT. COLLOM: He is not going to give you his copy.

PLAINTIFF'S EXHIBIT 58
Cronk 45

MR. WAESCHE: Mr. Daly, the attachments consist of exhibits which have already been marked for trial purposes, is that not so?

MR. DALY: Yes. But I would like to make it clear.

MR. WAESCHE: Make it clear.

MR. DALY: I think a copy of it would be the best way to get a complete lettering. I will accept a copy instead of the original of all of these.

Would you mark this as Exhibit 56.

Off the record.

(Discussion off the record took place.)

MR. WAESCHE: Mr. Daly, I will be pleased to send you a copy from our files, if you wish.

MR. DALY: With the attachments?

MR. WAESCHE: For the record, what attachments? You already have them.

MR. DALY: A letter should be complete, Mr. Waesche, it saves a lot of cross-reference and digging through files to connect up what is basically one exhibit, one letter with it's enclosures.

PLAINTIFF'S EXHIBIT 58
Cronk

MR. WAESCHE: So that there is no confusion, I will give you everything. But, I would like to state that the enclosures attached to the letter consist of what has been marked now as Trial Exhibit 53, one, two, three, four pages, and the reason for that is that initially the copy is on the front and back and when we photostated it we had to get two pages for front and back, what has been marked as Trial Exhibit 62.

I will be pleased to furnish you with all of it.

MR. DALY: Thank you.

Let us deem this letter dated June 12, 1975, from Mr. Juliano of Bigham, Englar, Jones & Houston to Commander Cronk, as Trial Exhibit 56.

And I understand a copy of the letter with attachments will be furnished by Mr. Waesche.

(Letter dated June 12, 1975 from Mr. Louis Juliano to Commander Cronk is deemed marked as Plaintiff's Trial Exhibit 56 for identification, as of this date.)

PLAINTIFF'S EXHIBIT 58

MR. WAESCHE: Is that the drawing?

(Handed.)

THE WITNESS: Yes. 52A.

A They asked me about the drawing and valves. They also asked me about, what I did as an inspector and Coast Guard Regulations.

Q Did they discuss with you basically all of the questions that they asked you on your direct examination?

A Yes.

Q Did they suggest to you any of the questions that might be asked by me on cross-examination or the material I might cover?

A They suggested that you would present this diagram Exhibit 52A.

Q I believe you stated that your report was approved by the Commandant, is that correct?

A Yes.

Q Did the Commandant attend on board the TRADE DARING?

A No.

Q Other than yourself, did anyone representing the Coast Guard conduct an investigation of this casualty?

PLAINTIFF'S EXHIBIT 58

To recall exactly how the piping systems were to them at this point, I could not say.

BY MR. WAESCHE:

Q Commander, in your seven years' experience as a marine inspector with the United States Coast Guard, have you ever been aboard a ship which had a drain system such as the TRADE DARING?

A To the best I recall, I have not.

Q It is unique in your experience, is that correct?

A In my experience?

Q Yes.

A This arrangement is unique.

MR. WAESCHE: I have no further questions at this time.

BY MR. DALY:

Q Had you ever served aboard a large diesel driven vessel?

A I have served aboard a Coast Guard diesel driven vessel.

Q What size was that?

A 311 foot Coast Guard Cutter. I have not served upon a one unit diesel ocean-going plant with one main diesel such as the TRADE DARING.

PLAINTIFF'S EXHIBIT 58

Q I would suggest, Commander, that you would agree, would you not, that taking into account the condition of the engine room when you saw it, that this German designed and German built diesel engine and its fuel and venting systems presented a very complicated picture to you, did it not?

A It is a relative question. The parts I saw, certain parts.

Q Some were familiar and some were not?

A Some were and some parts were not familiar, without having to go into it further.

Q Actually, in order to investigate the complexities of the diesel plant on the TRADE DARING, you would have to review the detailed plans of the builder, would you not?

A That would be of assistance.

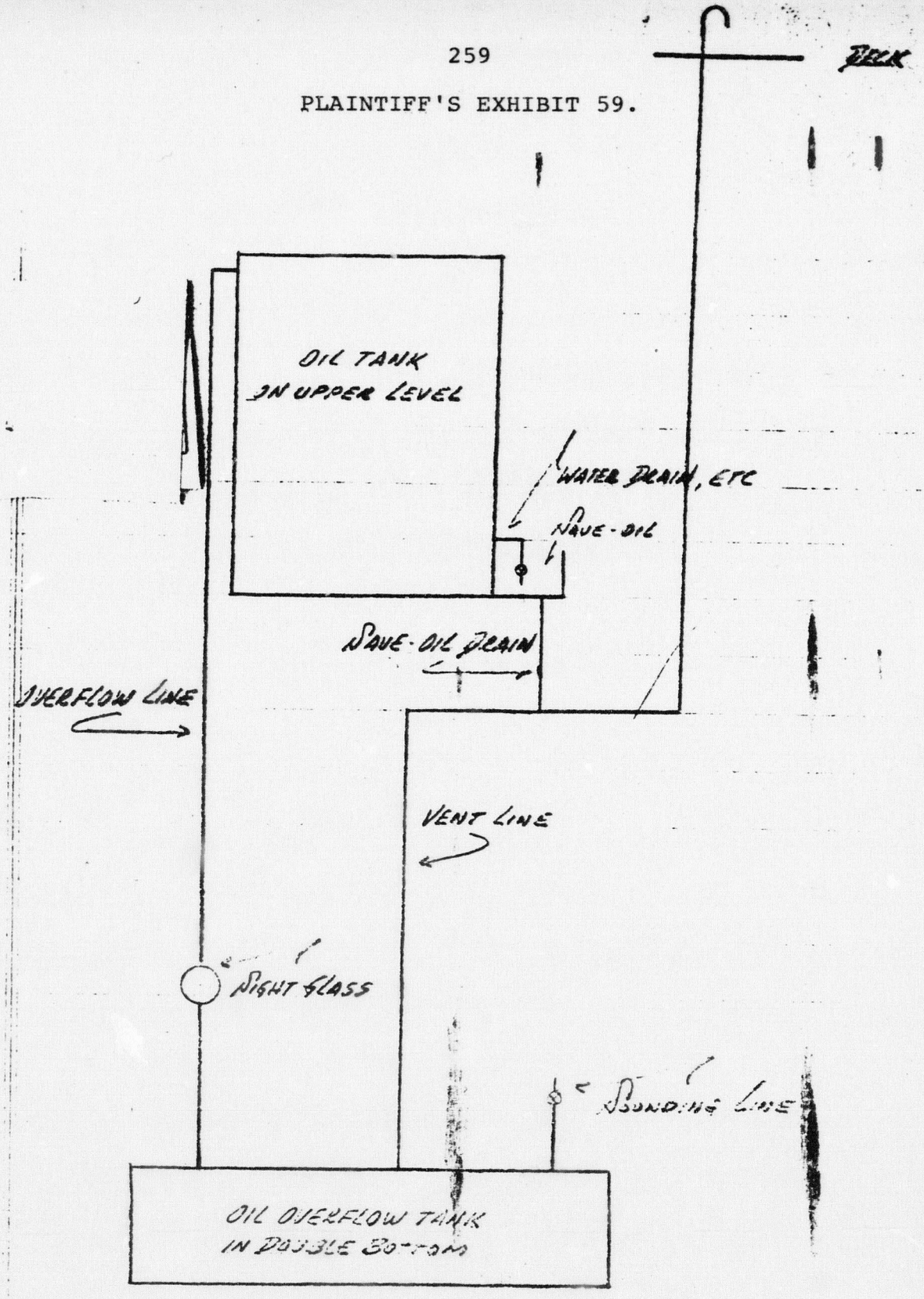
MR. DALY: I have no further questions.

MR. WAESCHE: I have no further questions.

MR. JULIANO: I have no further questions.

(Continued on next page.)

PLAINTIFF'S EXHIBIT 59.



OIL TANK OVERFLOW, VENT, ... SAVE-OIL SYSTEM

DEFENDANTS' EXHIBIT 61.

BUSINESS (212) 943-3949
(201) 442-2870

RESIDENCE: (201) 741-6806

HENRY C. HALBOTH

MARINE SURVEYOR

175 SMITH STREET
PERTH AMBOY, N. J. 08861

July 14, 1971

THIS IS TO CERTIFY That the undersigned surveyor did, on April 1, 2, 3, 13, 15, 21, 27, and June 23, 1971, at the request of Messrs. Bigham, Englar, Jones, and Houston, and on behalf of the interests concerned, survey without prejudice the

m/v "TRADE DARING"

15,510 Gross Tons Register, of Monrovia, Liberia

whilst lying afloat at Bethlehem Steel Corporation, Shipyards Division, Hoboken, New Jersey, for the purpose of investigating relevant to the cause of engine room fire, as allegedly sustained at Perth Amboy, New Jersey, on March 18, 1971, during the receipt of bunker oil from the m/v "MOBIL TRADER".

For further particulars, please refer to the vessel's log books, the statements of interested parties, and to the following.....

BACKGROUND INFORMATION:

This summary is based upon conversations with the vessel's Master and owner's representatives, as well as review of available log books. It is provided for general information purposes only, the attention of principals being invited to the various pertinent documents.

At 2215 hours on March 17, 1971, while "TRADE DARING" lay moored port side to the Hess Oil and Chemical Division, Amerada Hess Corporation, Perth Amboy, New Jersey, bunkering was commenced via the starboard 'midship connection from m/v "MOBIL TRADER", which latter vessel had moored alongside to starboard at about 2120 hours. "TRADE DARING" had, at commencement of bunkering, completed cargo discharge, was co-incidentally ballasting, and was making preparations for intended departure at 2400 hours.

Bunkering progress was visually observed by inspection through the access trunks above the diesel oil side tanks, as located on the maindeck immediately forward of the aftercastle bulkhead, port and starboard.

At 0042 hours on March 18, 1971, "MOBIL TRADER" was instructed by "TRADE DARING" to terminate delivery of oil. At 0050 hours engine room personnel observed oil flowing from the diesel oil side tanks through the related overflow sight glasses and into the double bottom overflow tank. Although bunkering was again ordered terminated, at about this latter time oil was discovered flowing from the save-oil collectors surrounding installations above the No. 3 generator and splashing down onto this operating machine.

At 0052 hours on March 18, 1971, in spite of efforts by the ship's force to protect the No. 3 generator with tarpaulins, the overflowing oil ignited with resultant catastrophic fire.

GENERAL DESCRIPTION - m/v "TRADE DARING":

Note: Vessel is ex (1) "BERTHA ENTZ".

Single deck, single screw, five (5) hatch, eleven (11) tank, combination oil/ore carrier of steel construction with forecastle, centercastle, aftercastle, and machinery

situated aft. Built by Kieler Howaldtswerke, A.G., Kiel, Germany, in 1955, to the following reported characteristics.....

Length, overall.....607'04"
Length, between perpendiculars.....569'01"
Breadth, molded..... 73'10"
Depth, at side to maindeck..... 44'11"

Main propulsion machinery consists of a single, eight (8) cylinder, 27.5 x 47.2, two (2) cycle, double acting diesel engine of 8,000 BHP. Conventional diesel and electric auxiliaries, as well as three (3) donkey boilers, are provided.

The vessel was built to dual classification, i.e., Germanisher Lloyd +100 A/4, ore and oil, and American Bureau of Shipping +A1 (E), ore and oil carrier, +AMS, which latter class is presently continued.

Reference is invited to pertinent classification society records for further information relative to conditions of class and particulars of construction.

PARTICULARS OF EXAMINATION ABOARD "TRADE DARING":

Examination of "TRADE DARING" evidenced three (3) separate oil systems to have been designed into the vessel, i.e., black oil for boiler service, diesel oil for main propulsion, and light oil for auxiliaries. Although design nomenclature continues to be employed, present usage reportedly has combined light and diesel oil facilities for the carriage of a single grade diesel fuel, while retaining separate only the black oil arrangement. Tankage in way of the engine room, designated in consonance with design intent, is as follows.....

1. Port diesel oil side tank, located along the hull port side between transverse frames 47 and 51.

2. Starboard diesel oil side tank, located along the hull starboard side between transverse frames 44 and 51.

3. Port diesel oil settling tank, located to port of the centerline and abaft the forward bulkhead, between frames 47 and 49.

4. Starboard diesel oil settling tank, located to stbd of the centerline and abaft the forward bulkhead, between frames 47 and 49.

5. Port diesel oil day tank, located to port of the centerline, above the port settler, and abaft the forward bulkhead, between frames 47 and 51.

6. Starboard diesel oil day tank, located to starboard of the centerline, above the starboard settler, and abaft the forward bulkhead, between frames 47 and 51.

7. Starboard light oil side tank, located along the hull starboard side between frames 40 and 44, immediately abaft the starboard diesel oil side tank.

8. Port light oil day tank, located at about the port quarter breadth, on a platform level above the No. 3 generator, and in the vicinity of frame 40.

9. Port black oil side tank, located along the hull port side between frames 40 and 47, immediately abaft the port diesel oil side tank.

10. Port black oil double bottom tank, located in the double bottom between frames 31 and 45.

11. Starboard black oil double bottom tank, located in the double bottom between frames 31 and 45.

12. Black oil overflow double bottom tank, located in the double bottom between frames 45 and 47, on the port side.

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13. Diesel oil overflow double bottom tank, located in the double bottom between frames 45 and 47, amidships.

14. Light oil overflow double bottom tank, located in the double bottom between frames 45 and 47, on the starboard side.

Additional diesel oil bunker capacity is provided outside the engine room and consists of the.....

15. Port diesel oil deep tank, located at the vessel's forward end, along the hull port side, between frames 179 and 199.

16. Starboard diesel oil deep tank, located at the vessel's forward end, along the hull starboard side, between frames 179 and 199.

Tank overflow and vent system:

Of the above engine room installed tankage, each side tank (1,2,7 & 9), day tank (5,6 & 8), and settler (3 & 4) is fitted with an overflow line, arranged to discharge into the corresponding oil grade overflow double bottom tank and fitted with a "bull's eye" sight glass to visually demonstrate flow. The requisite vent lines to atmosphere above the maindeck are fitted.

Diesel and light oil bunkering system:

The diesel oil filling and delivery line, as reported in use at the casualty time, was investigated within the engine room. This line serves both the originally designated light and diesel oil storage arrangements; it is, however, separate from the black oil system.

The diesel oil filling and delivery line enters the engine room by way of the forward bulkhead and to starboard of the centerline; it is situated in way of an athwartships platform, two (2) levels above the operating area. Subsequent to bulkhead penetration, the main line is divided, valved, and branched from the bulkhead onward into the engine room to include, in sequence.....

a. A directly connected, valved branch line serving the starboard light oil side tank (7). This line is connected ahead of the following block valve.

b. A main line block valve, which serves to isolate all lines as follow, relative to delivery from the deck situated bunkering connection.

c. A directly connected athwartships line which is valved port and starboard to serve the diesel oil side tanks (1 & 2). This line is in turn branched by directly connected, separately valved lines to service the port settler (3), the starboard settler (4), and the "vor bunkern ventil schliessen"; the intent of the latter branch could not be definitively ascertained, however, is assumed associated with service related to the forward deep tanks (15 & 16).

d. A directly connected vertical line to a lower level fuel oil transfer pump. This pump takes suction from an unmarked manifold and delivers, via a non-return fitting, to any or all of the foregoing lines, as dependent only on valve manipulation. The arrangement provides diesel transfer facilities between the forward bunker tanks and the various engine room tanks included in the diesel fueling system.

Specifically not included on the foregoing diesel bunkering system are the diesel oil day tanks (5 & 6), the light oil day tank (8), the diesel overflow tank (13), and the light oil overflow tank (14). While these latter tanks are separately serviced by transfer arrangements, potential for inadvertent cross connection during the course of bunkering operations does exist and must be anticipated.

During bunkering or transfer, the diesel and light oil overflow double bottoms (13 & 14) are subject to possible receipt of oil from any engine room tank filled to capacity. As all engine room tankage, including day tanks, is co-incidentally fitted to overflow to these

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double bottom tanks, general intercommunication will be seen as dependent on relative head, once the overflow tanks be filled. It is the function of the sight glasses to signal overflow in sufficient time for attentive watch keeper to block or re-route further incoming oil. The tank vent system is an avenue of relief in the event of overfilling, however, can only become effective at heads necessary to induce outflow at above maindeck level; such heads are greater than those permissive of intertank flow.

Although both diesel and light oil day tanks (5, 6 & 8) are fitted with spring loaded, hand actuated valves for water extraction, the system as thus far described is closed with regard to unintentional outflow of oil into the engine room. This circumstance has, however, been compromised by installation of drains, which form a so-called save-oil system, and by alteration of overflow piping from the diesel oil day tanks (5 & 6) in conjunction with this latter arrangement.

The save-oil system:

The save-oil system consists of a group of enclosures, open at the top, which surround or are installed in way of the light oil day tank (8), the main engine fuel filters, the port diesel oil day tank (5), the starboard diesel oil day tank (6), and selected other areas about the engine room. Each such enclosure is fitted with a drain which is situated below the vent atmospheric outlets and the overflow line connections at the various tanks. These drains are commonly piped, port and starboard, to the double bottom overflow tanks (13 & 14).

The intent of this system is to collect oil slops from tank fittings, etc., and to allow drainage thereof to the overflow tanks (13 & 14). Hand valve closures were seen in way of the save-oil system high point collection basins fronting the port and starboard diesel oil day tanks (5 & 6), otherwise no valves of any description were evident.

Modification of previously described engine room tank overflow arrangements was noted in way of the port and starboard diesel oil day tanks (5 & 6). Overflow lines from these tanks were seen disconnected in such manner as to discharge directly into the collection basins fronting thereon. The effect of this disconnection is to permit overflow to be directed visually via the save-oil system, as opposed to design intent.

Tank conditions:

At our initial attendance aboard "TRADE DARING" on April 1, 1971, soundings were checked as possible in way of engine room designated diesel and light oil tankage. The following were noted.....

Port diesel oil side tank (1).....2'08" ullage (est)
Starboard diesel oil side tank (2).....2'06" ullage (est)
Port diesel oil settling tank (3).....not ascertainable
Starboard diesel oil settling tank (4).....not ascertainable
Port diesel oil day tank (5).....1'00" ullage
Starboard diesel oil day tank (6).....1'04" ullage
Starboard light oil side tank (7).....not ascertainable
Port light oil day tank (8).....not ascertainable
Diesel oil overflow double bottom (13).....pressed up
Light oil overflow double bottom (14).....pressed up

Where soundings are noted "not ascertainable" gauge glasses and/or sounding tubes were fire affected or obstructed by debris.

The diesel and light oil overflow tanks (13 & 14) were pressed up to the extent of overflowing the related sounding tubes, which are located just above the engine room tank top. The port diesel oil side tank (1) overflow sight glass was broken and oil was to be seen standing at this level in the line, about 9-Ft. above the tank top.

On subsequent attendance tank levels were noted to remain apparently constant, except in way of the port diesel oil side tank (1). This latter tank ullage ultimately increased to 9'00" by April 27, 1971. The cause of leakage or loss could not be factually ascertained, although it was reported resultant upon fire induced damage in way of tank structurals or associated lines.

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Tank capacities:

We have re-calculated the vessel's diesel fuel tank capacities in long tons, based upon 41.5 cubic feet of oil per ton, and estimate total available bunker space to be.....

Port diesel oil side tank (1)	174.2 long tons
Starboard diesel oil side tank (2)	218.9 long tons
Port diesel oil settling tank (3)	32.2 long tons
Starboard diesel oil settling tank (4)	32.2 long tons
Port diesel oil day tank (5)	14.8 long tons
Starboard diesel oil day tank (6)	16.3 long tons
Starboard light oil side tank (7)	55.5 long tons
Port light oil day tank (8)	3.7 long tons
Diesel oil overflow double bottom (13)	15.1 long tons
Light oil overflow double bottom (14)	8.1 long tons
Total situated in way of engine room	571.0 long tons
Port diesel oil deep tank (15)	460.9 long tons
Starboard diesel oil deep tank (16)	471.2 long tons
Total situated outside engine room	932.1 long tons
Total capacity at 100%	1,503.1 long tons

The characteristics of the port light oil day tank (8) are not recorded amongst data made available relative to the vessel. Capacity has been deduced from actual measurements taken off on board.

Fire damage and related considerations:

The vessel's engine room, fire room, and contiguous after quarters spaces have been extensively fire damaged.

All contained machinery, electrical systems, boilers, structurals, etc., within the engine and fire rooms have been exposed to the heat of fire, and to wetting by water employed in fire fighting. Those installations on the lower level have been additionally submerged in accumulated water, which appears to have risen some 4-Ft. above the floor plates, and has been heavily contaminated by oil carried upwards from the bilge by this water.

Contiguous quarters areas, including all partition bulkheads, fittings, furnishings, outfit, structurals, electrical systems, etc., have been entirely destroyed; hull plating abreast these areas has been heat affected and severely buckled.

Attention is invited to the various survey specifications prepared by owners and interested surveyors in establishing the nature and extent of damage. These documents have been reviewed by the undersigned and are opined consistent with conditions as generally noted aboard the vessel.

Fire appears to have originated on the engine room lower level port side, in way of the No. 3 generator and/or electrically powered circulating pump. Electrical apparatus in way of said pieces of machinery was heavily charred and surrounding characteristics indicate fire to have radiated from this location. These machinery units are situated below the platform on which the save-oil collection basis surrounding the port light oil day tank (8) and main engine fuel filters are situated, and from which oil was reported falling at the casualty time.

The foregoing platform was examined. Fire patterns here evidenced liquid to have been standing during the course of fire. Although appurtenances in way were generally fire charred, portions projecting below the platform coaming were unaffected, in such manner as to indicate submersion in liquid during exposure of surrounding areas to fire.

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PARTICULARS OF EXAMINATION ABOARD "MOBIL TRADER":

"MOBIL TRADER" is a self-propelled tank barge of welded steel construction with square ends, straight sides, flush deck, and flat bottom. Documented as having been built at Nashville, Tennessee, in 1967, and employed by Mobil Oil Corporation for general bunkering service.

The vessel is outfitted on deck with two (2) gear type, diesel engine driven pumps for the delivery of bunkers, via the customary hose connections. These pumps each reportedly deliver approximately 1300 barrels per hour at a pressure of 40 psi, when operated at full speed of 1500 rpm. During stripping and blowing out of lines, operation is said to be at 950 rpm, with resultant pressure of 0 to 5 psi and greatly reduced flow. A relief valve and recirculating line is provided at the pump outlet as security against overpressurization on the delivery side.

"MOBIL TRADER" was reported loaded at Port Mobil, Staten Island, New York, for delivery to "TRADE DARING", and in response to an order for 375 long tons, as follows.....

Diesel bunker fuel at API gravity 31.9 (Group I).

Tank	Ullage	Measured Quantity
No. 1 port	13'03"	7,641.00 gallons @ 45° F.
No. 3 port	3'00"	53,826.00 gallons @ 45° F.
No. 3 stbd.	3'00¼"	53,957.00 gallons @ 45° F.
Total measured quantity.....		115,424.00 gallons @ 45° F.
Correction factor.....		1.0060
Total net quantity.....		116,116.54 gallons @ 60° F.

Tons at 7.211 pounds per gallon...373.8 long tons

There was reportedly no free water or residue gauged in tankage prior to commencement of loading; other available on board tankage was recorded as empty.

Ullages as employed in calculations were taken by "MOBIL TRADER'S" pumpman and the attending terminal gauger. Innages were determined by reference to available ship's tank tables which have been prepared by E. W. Saybolt and Company. These tables are arranged to require no trim correction, as the vessel's sounding tubes are located at the respective tank mid-lengths.

Quantities laden aboard "MOBIL TRADER" were checked by shore tank outages and reported as 115,955 gallons (net). Again at 7.211 pounds per gallon, this figure is equivalent to 373.4 long tons.

Drafts at Port Mobil were recorded as.....

Before loading.....	For'd	0'00"
	Aft	3'06"
	Mean	1'09"
After loading.....	For'd	3'00"
	Aft	8'00"
	Mean	5'06"

Neither tank soundings nor drafts aboard "MOBIL TRADER" were checked by "TRADE DARING" at commencement of bunkering operations.

CONCLUSIONS AND OBSERVATIONS:

Predicated upon the foregoing commentary and analysis, the following conclusions and observations are tendered.....

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Cause of fire:

It appears that fire originated aboard "TRADE DARING" in way of the engine room port side lower level, and that initiation may reasonably be attributable to oil overflow from above onto operating electrical machinery in the area of No. 3 auxiliary diesel generator.

Arrangements within the vessel's engine room do provide a potential source for oil outflow in sufficient quantity to create a casualty situation.

Potential for oil outflow into engine room:

In combination, the tank overflow and save-oil system aboard "TRADE DARING" are so constituted, as regards potential outflow of oil directly to the engine room, that.....

a. Should overflow double bottom tanks (13 & 14) be filled via the intended overflow lines and be subjected to heads equal only to line height, oil would necessarily back-flow, not only into overflow piping generally but also into the save-oil system. As the save-oil drains are estimated in excess of 8-Ft. below overflow pipe top connections, introduction of oil to the engine room is readily to be opined under the stated circumstance.

b. Should the port and/or starboard diesel oil day tanks (5 & 6) be overflowed at a volume in excess of the save-oil system drop line capacity, backflow to other save-oil branch lines, which are at lesser head, is entirely possible.

c. Further, it is apparent that a general venting of oil vapors from the overflow double bottom tanks (13 & 14) to the engine room, via the save-oil system, is permitted and would be accelerated during any period of overflow.

d. The actual capacity of the engine room fuel storage system is in effect reduced by the save-oil arrangement. As the overflow lines are connected below full tank capacity level, back-flow through save-oil piping will obviously occur prior to utilization of the fuel system reserve capacity. Normally this reserve capacity would provide an additional safety volume, prior to relief via the atmospheric vents.

In the opinion of the undersigned, the incorporation of the described save-oil system in the fuel tank and piping arrangements violates the vessel's standard of classification, in that the intended venting of fuel tankage only to atmosphere above the maindeck level is thereby compromised. The vessel's classification records were searched to no avail for reference to this system and, although requested, no classification approved piping plans relating thereto could reportedly be produced.

Bunkering considerations, including tank conditions after fire:

Bunkers aboard "TRADE DARING" on arrival at Perth Amboy, New Jersey, have been variously reported at 165 long tons, per customs declaration, and subsequently as 200 long tons, per crew testimony. It is understood that quantities thus reported are alleged to have been contained in the engine room tankage, however, neither tank sounding records, nor relevant conditions associated therewith, have been made available to support these figures.

Based upon estimated engine room situated tank capacities only, in total amount of 571 long tons, exclusive of the forward deeps, the bunker space intended to be filled must roughly be considered between 406 and 371 long tons. As oil on hand aboard "MOBIL TRADER" for delivery is reported in the amount of 373.8 long tons (net), rationalization for even potential overdelivery is inconclusive.

The undersigned is not of the opinion that tank conditions noted subsequent to fire are definitive of capacities to which bunkering was previously carried out, in that.....

a. Although pressed up at our attendance, the diesel and light oil double bottom overflow tanks (13 & 14) were potentially subjected to introduction, via the save-oil system, of water employed about the engine room in fire fighting. These tanks were not thiefed by the undersigned and no report thereof could be elicited.

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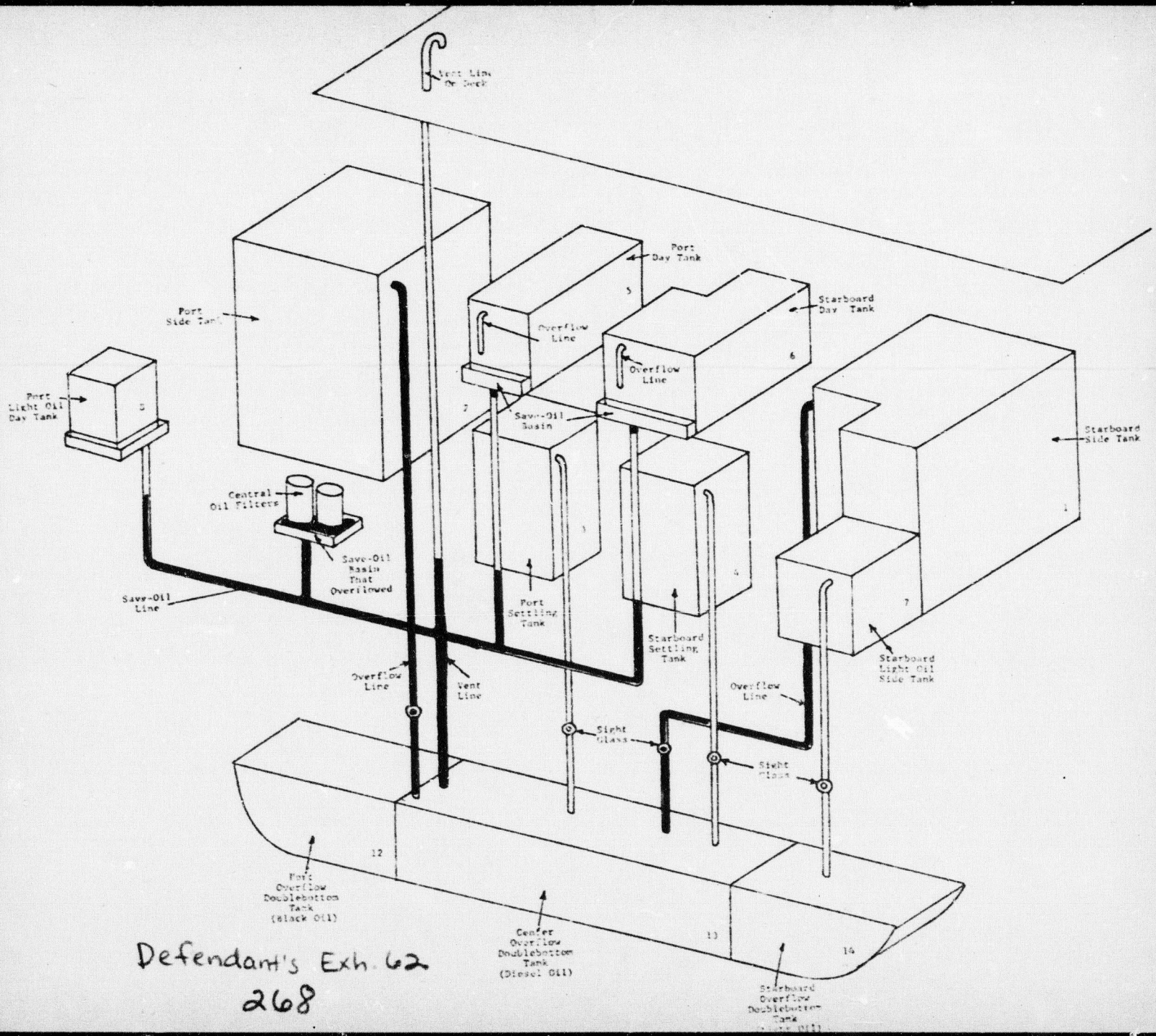
b. The port and starboard diesel oil side tanks (1 & 2) are fitted with access hatchways over maindeck situated trunks, through which the progress of bunkering was reportedly observed by the ship's force. Should these hatchways have been left open or only partially secured during the fire, as appears entirely possible, the ingress of water would here also serve to decrease ullages and perhaps induce overflow to the double bottoms.

It does, however, appear conclusive that, although "TRADE DARING'S" fuel system was compromised to permit overflow directly into the engine room and that possible quantities of oil were on hand for potential overdelivery to engine room tankage, any casualty situation may have been averted by prompt action on the part of the ship's force in.....

a. Re-routing incoming oil to available space in way of the forward deep tanks (15 & 16).

b. Simply shutting down further oil flow to the ship's tankage by manipulating the appropriate engine room valves. As "MOBIL TRADER'S" pumping plant is equipped to recirculate on over-pressurization, no pollution possibility could be anticipated through this latter course of action.

H. C. Halboth
Surveyor



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Germanischer Lloyd

Rules

for

Classification and Construction

of

Machinery

of

Seagoing Ships

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DEFENDANTS' EXHIBIT 63

Germanischer Lloyd

5 June 1975

I HEREBY CERTIFY that the annexed is a true copy of the 1953 GERMANISCHER LLOYD Rules for Classification and Construction of Machinery of Seagoing Ships.

H. Schnitger

Helmut Schnitger
Surveyor to Germanischer Lloyd

I HEREBY CERTIFY that HELMUT SCHNITGER who signed the foregoing certificate, is now, and was at the time of signing, Surveyor to GERMANISCHER LLOYD and that full faith and credit should be given to this certificate as such.

IN WITNESS WHEREOF, I have hereunto subscribed my name and caused the seal of Germanischer Lloyd to be affixed this 5th day of June, 1975.

Lawrence J. Trudeau

Lawrence J. Trudeau
Vice President
Roland Marine, Inc.
Agent for Germanischer Lloyd

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Section 21

Storage of Fuel*)

1. Storage

About 2o% of the total quantity of fuel or at least as much as to ensure that half the distance of the largest range of service to be traded by the vessel in question can be covered with certainty, is to be kept outside the double bottom so that it cannot get lost by damage to the hull.

W This requirement does not apply to vessels trading in shallow waters.

2. Installation of Fuel Tanks

Fuel storage tanks and bunkers are to be so installed and equipped that they are not unduly heated by the engine and its piping as well as by the auxiliary boilers or heaters and that fuel or inflammable gases cannot discharge into the engine or boiler room. Tanks for the storage of fuel with flash points up to 65°C are to be installed outside the engine room**) (see also Chapter 13, Section 4, paragraph 6).

*) The specifications set forth in Chapter 7 "Oil Burning Installations" relative to the storage of oil fuel are to be applied accordingly to the storage of gas oil.

**) As regards the inflammability of liquid fuel the following 3 danger groups were officially stipulated by publication in the "Bundesanzeiger" No.37 of 29th August, 195o:

Danger group I, includes liquids with a maximum flash point of 21°C

Danger group II, includes liquids with a flash point above 21°C up to 55°C[1]) incl.

Danger group III, includes liquids with a flash point above 55°C[1]) up to loo°C incl.

The value determined by an officially certified Abel-Pensky Petroleum Tester is to be applied as a flash point of the liquid.

1) As the maximum temperature between group II and III has been stipulated at 65°C by the "Commission Electrotechnique Internationale" (CEI), this value has been adopted as a standard in the present edition of the Rules for Machinery.

3. Water Pressure Tests

Upon fitting of all pipe connections in accordance with Chapter 23, para 2 of the Rules for the Construction of Seagoing Vessels, oil fuel bunkers are to be hydraulically tested for tightness with a head of water of at least 2.5 m above the tank top, in all cases, however, where the load line is more than 2.5 m above the tank top, up to the height of the load line. Where the depth of a bunker exceeds 8 m, the pressure head is to be greater by o.3 m than 2.5 m for each metre of greater depth.

W Oil bunkers installed in vessels trading in shallow waters are to be tested with a head of water of o.5 x moulded depth above bunker top, or, if the top is situated below the load line by more than o.5 x moulded depth, with a head of water up to the depth of the load line (see Chapter 21, Section 4 of the Construction Rules for Vessels Trading in Shallow Waters).

The pressure tests are to be carried out with a head of water of at least up to the maximum point of the overflow or air pipe, respectively.

Tanks which do not form part of the structure are also to be tested with a head of water up to the highest point of the overflow and/or air pipe. The pressure head must be at least 3 m above the tank top.

4. Filling and Discharging Pipes

For the filling of oil bunkers and tanks as well as for the discharging of oil from on board, permanently installed piping is to be arranged which is to be equipped with shut-off valves situated as close as possible to the deck or to the ship's side. Unless the filling pipes are connected to the top or are led near to the top inside the bunker or tank, a shut-off valve must be fitted to the bulkhead which can be shut from an adjacent space or from the deck, or else a non-return valve must be installed.

5. Air and Overflow Pipes

Oil fuel bunkers and other oil tanks are to be fitted with air pipes which are to be conducted separately to the open, e.g. to the funnel or mast. In the case of equal grades of oil they may be joined. Their ends are to be so arranged and fitted that the oil vapour can neither enter service or accomodation rooms thus having dangerous effects nor can water flow into the pipes. It is also to be ensured that the mesh wire sieves for flame protection cannot closed by paint.

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Bunkers and tanks are, moreover, to be fitted with one overflow pipe each to avoid any unduly high pressure occurring by overcharge or due to heat-expansion of the oil. These overflow pipes may be conducted either into an overflow tank especially installed for this purpose, or if the port authorities permit, they may be conducted outboard at a permissible height.

The air pipes may simultaneously be used as overflow pipes, i.e. no special overflow pipes need be provided, if the air pipes and their connections are of such design that the pipes can meet the requirements of air and overflow pipes, as well.

Where the overflow or air pipes of several bunkers are joined, the junction of these pipes or the highest point of each pipe must be situated at such a height above the load line of the ship and/or the various pipes must be carried from the bunker to such a height that in the case of a leakage of a bunker due to damage to the hull no oil nor water can overflow to any other bunker. In the case of passenger vessels the connection of air or overflow pipes or the highest point of the single pipes before such connection should be situated as far as possible above the bulkhead deck. Each of the air or overflow pipes is to be fitted with a shut-off valve which under normal operating conditions is to be locked in an open position. Alternatively, blind flanges may also be used at these points instead of valves or cocks.

Where an overflow tank is provided, this must be equipped with a safety device so that it is protected, as well as all connected bunkers, against any undue overpressure. For this purpose an overflow pipe discharging to overboard at a permissible height may be used. Should the owner desire that the overboard discharge of oil be avoided with regard to any existing rules of port authorities a reliable alarm device may be installed instead of the overflow pipe which is put in action when 1/2 or 3/4 of the overflow tank is filled. In this case the overflow tank must be fitted with an air pipe of sufficient area.

The overflow pipe of each bunker must, if it serves as an air pipe, alternatively be of at least the same cross sectional area as the filling pipe of the bunker. Where special air pipes are used in addition to overflow pipes the former must have an internal diameter of at least 60 mm as well as the air pipe of the overflow tank which might exist.

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should be at least equal to the area of the filling line and the vents need not exceed the above minimum sizes.

(d) **Vents of Fresh Water Tanks** shall extend above the weather deck unless they terminate within the machinery space, in which case they are to terminate well above the deep load line.

(e) **Vents of Lubricating Oil Tanks** may terminate in the machinery space but should be located so as to preclude the possibility of overflowing oil on electrical equipment or high temperature piping.

(f) **Vents of Ballast and Other Oil Tanks** are to extend above the weather deck in locations where the possibility of ignition of gases issuing from the vent outlets is remote. Vent outlets from oil tanks should be fitted with corrosion resistant wire gauze having a clear area through the mesh of not less than the required area of the pipe. For low flash point fuel oil see paragraph (24) (e).

(g) **Overflow Pipes** discharging through the vessel's side shall be located as far above the deepest load line as practicable and shall be provided with non-return valves located on the vessel's side. Where the overflow does not extend above the freeboard deck there shall be provided in addition an efficient and accessible means for preventing water from passing inboard. Such means may consist of another non-return valve located in an accessible position above the deepest load line. Where it is impracticable to locate the inner valve in an accessible position, one non-return valve with positive means for closing from an accessible position above the freeboard or bulkhead deck will be acceptable provided there are suitable arrangements to insure the valve not being closed by unauthorized persons and provided a notice is posted in a conspicuous place at the operating station to the effect that the valve should never be closed except as may be required in an emergency.

(h) **Deep Tank Overflows.**—Where deep tanks are intended for the occasional carriage of dry cargo a "spectacle-blank" flange should be fitted in the overflow pipe and so arranged as not to interfere with ventilation. See also paragraph (14) (b).

(i) **Sounding.**—Fuel oil tanks and fresh-water tanks may be fitted with approved tank-level indicating apparatus, but when such apparatus is fitted a supplementary manual means of sounding shall be provided. All other tanks and hold compartments which are not at all times accessible are to be fitted with sounding pipes not less than 1½ inches inside diameter. They should be led as straight as possible from the lowest part of the tank or compartment to the bulkhead deck or to a position which is always accessible. If sounding pipes terminate below the freeboard deck they should be provided with means for closing as follows:

[I] For oil tanks, with quick-acting self-closing gate valves.

[II] For tanks other than oil tanks, with gate valves or a screwed cap secured to the pipe with a chain.

Provision is to be made to prevent injuring the vessel's plating by the striking of the sounding rod. In general sounding pipes should not pass through bilge wells but if this is not practicable the pipe should be at least extra heavy in the bilge well.

PIPING DETAILS

(29) **General.**—The piping details determined in accordance with the following paragraphs (30) to (35) inclusive are to be based on the maximum working pressure and temperature to which they may be exposed in service under normal sustained operating conditions. Installations intended for maximum temperatures in excess of 800 F will be subject to special consideration. The following requirements for valves, fittings and flanges are based upon standards of the American Standards Association, however, the suitability and application of those manufactured in accordance with other recognized standards will be considered. For boiler feed and blow-off service the adjusted pressure rating should not be less than 1.25 times the boiler drum safety valve setting.

(30) **Valves.**—(a) Spindles, seats and discs of valves are to be of material which is in itself corrosion resistant or otherwise so treated as to prevent freezing of bearing surfaces. Valves are to be right hand closing when facing the end of the valve stem and are to be either of the rising stem type or fitted with an indicator to show whether the valve is open or closed. Valve position indicators will not be required for the remote control gear of valves in cargo oil tanks.

(b) All cast iron valves are to have bolted bonnets. All valves in Group I piping having nominal diameters exceeding 2 inches are to have flanged ends and bolted bonnets. All other valves may have screwed bonnets which in the case of valves intended for use in steam or oil lines should be of the union-bonnet

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(e) *Lubricating Oil Pumps.*—In cases where forced lubrication is used one independently driven spare pump shall be provided in addition to the necessary pumps for normal operation in ocean going vessels. Two separate means are to be provided for water circulation where oil coolers are fitted. The foregoing requirements are not intended to apply to vessels in river and harbor service nor in any vessel below 300 gross tons. Where the size and design of an engine is such that lubrication before starting is not necessary and an attached pump is normally used, an independently driven spare pump is not required if a complete duplicate of the attached pump is carried as spare.

(f) *Circulating Pumps*—There shall be at least two means for supplying cooling water, or oil where used, to main and auxiliary engines, compressors, coolers, etc. One of these means must be independently driven and may consist of a connection from a pump of adequate size normally used for other purposes such as a general service pump or in the case of fresh water circulation one of the ship's fresh water pumps, or where oil is used, an oil pump suitable for the service.

(19) **Oil Transfer and Filling System.**—(a) The piping arrangements for the carriage of fuel oil are to be in accordance with the requirements of Section 36 in addition to the following requirements.

(b) The fuel oil overflows, drains from fuel and lubricating oil tanks and from drip pans of oil pumps and tanks are to be led to a closed cofferdam or drain tank fitted with air and sounding pipes and an independent suction from the fuel oil transfer pumps. Where a gutter bar is fitted to intercept the seepage from deep oil tanks the well thus formed should be drained into the oil drain tank or cofferdam by way of drain valves, or have a suction from the fuel transfer pump. Filling lines shall terminate at the weather deck and tanks are to be vented to the open atmosphere.

(c) Tanks not forming part of the vessel's structure are to have suitable drip pans. Gasoline tanks are not to be fitted with glass gauges, but such gauges may be used on other tanks provided they are effectively protected and fitted with a valve at each end. Service tanks are to be located at a sufficient height to permit gravity flow to the carburetor or service pump suction.

(d) Where gasoline is used as fuel, all pipes are to be of annealed seamless copper with flexible bends and the joints in such pipes are to be metal to metal and of approved design. A valve is to be fitted at each end of the pipe between the tank and carburetor and the pipes are to be protected from mechanical injury and exposed to view throughout their entire length. Metal gauze diaphragms are to be fitted either between the carburetor and cylinders or at the air inlets and over all drip pans.

(20) **Fuel Oil Injection System.**—Strainers should be provided in the fuel oil injection pump suction line and for main propulsion engines the arrangement should be such that the strainers may be cleaned without interrupting the fuel supply to the engine. Cut out valves are to be located at the service tanks and be so arranged as to be operable from the engine room floor plates and, where considered necessary, from outside the engine hatch. The injection line is to be of seamless drawn pipe and fittings are to be extra heavy. The material used may be either steel or non-ferrous as approved in connection with the design.

(21) **Scavenging Air System.**—Provision should be made to prevent excessive pressure in the scavenging air system.

(22) **Lubricating Oil System**—(a) Oil filters should be provided on all engines and in the case of main propulsion engines which are equipped with full-flow type filters the arrangement should be such that the filters may be cleaned without interrupting the oil supply.

(b) The lubricating oil piping should be entirely separate from other piping systems.

(23) **Cooling Water System.**—(a) Means should be provided to ascertain the temperature of the circulating water at the return from each engine and to indicate that the proper circulation is being maintained. Drain cocks should be provided at the lowest point of all jackets and a relief valve should be fitted in the main line to the jackets to prevent excessive pressure.

(b) At least two independent sea suctions should be provided for supplying water to the engine jackets or to the heat exchangers.

(c) Where sea water is used for cooling the engine, unless other equivalent arrangement is specially approved by the Bureau, suitable strainers should be fitted between the sea valves and the pump suctions and should be either of the duplex type or otherwise so arranged that they can be cleaned without interrupting the cooling water supply. This applies also

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Vent, Sounding and Overflow Pipes

36.39 Vent Pipes

36.39.1 *General*

In all vessels the structural arrangement in double-bottom and other tanks is to be such as to permit the free passage of air and gases from all parts of the tanks to the vent pipes. Tanks having a comparatively small surface, such as fuel-oil settling tanks, need be fitted with only one vent pipe, while tanks having a comparatively large surface are to be fitted with at least two vent pipes, one of which is to be located at the highest part of the tank. Vent pipes are to be arranged to provide adequate drainage under normal conditions. When overflows from the tanks in more than one watertight subdivision are connected to a common header below the freeboard or bulkhead deck, the arrangement is to be such as to prevent fore-and-aft flooding of one watertight bulkhead subdivision from another in the event of a damage. All vent and overflow pipes on the open deck are to terminate by way of return bends.

36.39.2 *Height*

Where air pipes to ballast and other tanks extend above the freeboard or superstructure decks, the exposed parts of the pipes are to be of substantial construction; the height from the deck to the point where water may have access below is to be at least 760 mm (30 in.) on the freeboard deck and 450 mm (17.5 in.) on the superstructure deck. Where these heights may interfere with the working of the ship, a lower height may be approved, provided that the closing arrangements and other circumstances justify a lower height. Satisfactory means, permanently attached, are to be provided for closing the openings of the air pipes.

36.39.3 *Size*

The diameter of each vent pipe is not to be less than 38 mm (1.5 in.) I.D. for fresh-water tanks, 51 mm (2 in.) I.D. for water-ballast tanks and 63 mm (2.5 in.) I.D. for oil tanks unless specially approved otherwise. Where tanks are to be filled by pump pressure, the pump capacity and pressure head are to be considered in the sizing of vents, and overflows, but in each tank, the total area of the vents, or of the overflows if fitted, is to be not less than 125% of the effective area of the filling line.

36.39.4 *Ballast and Other Oil Tanks*

Vents of ballast and other oil tanks are to extend above the weather deck in locations where the possibility of ignition of gases issuing from the vent outlets is remote. Vent outlets from oil tanks are to be fitted with corrosion-resistant flame screens having a clear area through the mesh of not less than the required area of the pipe. For low-flash-point fuel oil see 36.49.4.

ers is to be sufficient to provide not less than one-half the maximum rated engine rpm when one blower is out of service.

34.33.4 *Lubricating-oil Pumps*

In cases where forced lubrication is used, one independently driven spare pump is to be provided in addition to the necessary pumps for normal operation in ocean-going vessels. Two separate means are to be provided for water circulation where oil coolers are fitted. The foregoing requirements are not intended to apply to vessels in river and harbor service nor in any vessel below 300 gross tons. Where the size and design of an engine is such that lubrication before starting is not necessary and an attached pump is normally used, an independently driven spare pump is not required if a complete duplicate of the attached pump is carried as a spare.

34.33.5 *Circulating Pumps*

There are to be at least two means for supplying cooling water, or oil where used, to main and auxiliary engines, compressors, coolers, etc. One of these means is to be independently driven and may consist of a connection from a pump of adequate size normally used for other purposes, such as a general service pump, or in the case of fresh-water circulation one of the ship's fresh-water pumps, or where oil is used, an oil pump suitable for the service. Where, due to the design of the engine, the connection of an independent pump is impracticable, the independently driven spare pump will not be required if a complete duplicate of the attached pump is carried as a spare.

34.33.6 *Fuel-oil Transfer Pumps*

Two fuel-oil transfer pumps are to be provided and one of them is to be independent of the main engine.

34.35 Fuel Transfer and Filling Systems

34.35.1 *Fuel-oil Piping*

The piping arrangements for the carriage of fuel oil are to be in accordance with the requirements of Section 36 in addition to the following requirements:

34.35.2 *Oil Tanks and Drains*

The fuel-oil overflows, drains from fuel and lubricating-oil tanks and from drip pans of oil pumps and tanks are to be led to a closed cofferdam or drain tank fitted with air and sounding pipes and an independent suction from the fuel-oil transfer pumps. Where a gutter bar is fitted to intercept the seepage from deep oil tanks, the well thus formed is to be drained into the oil-drain tank or cofferdam by way of drain valves, or have a suction from the fuel-oil transfer pump. Filling lines are to terminate at the weather deck and tanks are to be vented to the open atmosphere.

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(5) *Outlets and drains.* Valves for removing water or impurities from fuel oil systems will be permitted in the machinery space provided such valves are fitted with caps or plugs to prevent leakage.

(6) *Filling pipe.* Tank filling pipes on motorboats and motor vessels of less than 100 gross tons and tank barges shall terminate on an open deck and shall be fitted with suitable shutoff valves, deck plugs, or caps.

(7) *Vent pipes.* Each tank shall be fitted with a vent pipe complying with Section 56.50–85.

(8) *Independent diesel fuel tanks.* See Subpart 58.50 of this subchapter for specific requirements.

56.50–80 Lubricating oil system.

(a) The lubricating oil system shall be designed to function satisfactorily when the vessel has a permanent 15° list and a permanent 5° trim.

(b) When pressure or gravity-forced lubrication is employed for the steam driven main propelling machinery, an independent auxiliary lubricating pump shall be provided.

(c) Oil coolers on steam driven machinery shall be provided with two separate means of circulating water through the coolers.

(d) For internal combustion engine installations, the requirements of paragraphs (b) and (c) of this section shall be met, but they do not apply to vessels in river and harbor service, nor to any vessel below 300 gross tons. Where the size and design of an engine is such that lubrication before starting is not necessary and an attached pump is normally used, the independent auxiliary pump is not required if a duplicate of the attached pump is carried as spare. In meeting the requirements of paragraph (c) of this section in the case of internal combustion engines, two separate means are to be provided for circulating coolant on those engines on which oil coolers are fitted. One of those means must be independently driven and may consist of a connection from a pump of adequate size normally used for other purposes utilizing the required coolant. Where the design of an engine will not readily accommodate an independent pump connection, the independent auxiliary pump will not be required if a duplicate of the attached pump is carried as a spare. Oil filters shall be provided on all internal combustion engine installations. On main propulsion engines which are fitted with full-flow type filters, the arrangement shall be such that the filters may be cleaned without interrupting the oil supply except that such an arrangement is not required on vessels having more than a single main propulsion engine.

(e) The lubricating oil piping shall be independent of other piping systems and shall be provided with necessary coolers, heaters, filters, etc., for proper operation. Oil heaters shall be fitted with bypasses.

(f) Diesel engine lubrication systems shall be so arranged that vapors from the sump tank may not be discharged back into the engine crankcase of engines of the dry sump type.

(g) Steam turbine driven propulsion and auxiliary generating machinery depending on forced lubrication shall be arranged to shut down automatically upon failure of the lubricating system.

(h) Piping subject to internal head pressure from lube oil in a storage tank shall be fitted with a positive shutoff valve of steel, ductile iron, or a ductile nonferrous alloy having a melting point above 1,700° F. located at the tank.

56.50–85 Tank vent piping.

(a) This section applies to vents for spaces in which liquid is carried as fuel, ship stores, cargo or ballast.

(1) The structural arrangement in double bottom and other tanks shall be such as to permit the free passage of air and gases from all parts of the tanks to vent pipes. Tanks in nuclear systems shall be provided with means for preventing uncontrolled release of hazardous amounts of radioactive materials.

(2) Tanks having a comparatively small surface, such as fuel oil settling tanks, need be fitted with only one vent pipe, but tanks having a comparatively large surface shall be fitted with at least two vent pipes. The vents shall be located so as to provide venting of the tanks under any service condition.

(3) Vent pipes for fuel oil tanks shall, wherever possible, have a slope of no less than 30°. Header lines, where both ends are adequately drained to a tank, are excluded from this requirement.

(4) Vents of fresh water tanks shall extend above the weather deck unless they terminate within the machinery space, in which case they shall terminate well above the deep loadline. Vents from ballast and fuel oil tanks shall extend above the weather deck and the vents from oil tanks shall terminate not less than 3 feet from any opening into living quarters.

(5) Vents from fuel oil and other tanks extending above the freeboard or superstructure deck shall be of substantial construction. Ex-

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supporting battens are to be arranged to provide free drainage to the bilges. Alternatively, either 12,5 mm (0·5 in) thick inodorous material, or successive coatings of approved oil resisting compositions to a total thickness of about 5 mm (0·19 in) may be applied to the tank top plating.

346 Riveted bulkheads of deep tanks intended for the carriage of oil are to be separated from refrigerated compartments by a cofferdam.

Provision is to be made for ventilating the cofferdam, the vents being led to the open air and their outlets being fitted with a wire gauze diaphragm which can be easily removed for renewal.

Where the tank bulkhead is wholly welded, including its boundary connections, the cofferdam may be omitted, provided successive coatings of an approved oil impervious composition be applied to the refrigerated compartment side of the tank bulkhead. The total thickness of the coating required will depend on the composition used and the method of application.

Extracts from Chapter D for reference

Protection and Drainage in Tanks Carrying Oil Fuel or Lubricating Oil

D 1926 Compartments carrying oil fuel or lubricating oil are to be separated by cofferdams from those carrying fresh or feed water. Oil fuel or lubricating oil compartments are to be similarly separated from those carrying vegetable oil. Cofferdams are to be suitably ventilated.

For tanks carrying vegetable and similar oils, *see* 1931.

D 1927 Gutterways are to be arranged at the foot of bulkheads in boiler rooms to ensure that leakage shall have free drainage to the wells or limbers.

D 1928 Drip trays or gutterways with suitable draining arrangements are to be provided for all tanks which do not form part of the hull structure, at pumps, valves and elsewhere where there is a possibility of leakage. Drip trays are also to be fitted under oiltight decks, except if these are completely welded, when the drip trays need only be fitted over the boilers.

D 1929 If cargo is carried in a compartment adjacent to an oil fuel settling tank which may be heated, the compartment side of the bulkhead or deck is to be insulated or equivalent arrangements provided.

Tanks carrying Vegetable and Similar Oils

D 1931 Deep or peak tanks carrying vegetable or similar oils are to be separated from those carrying oil fuel, lubricating oil or fresh or feed water by a cofferdam.

Cofferdams are not required between oil fuel double bottom tanks and deep tanks above provided the inner bottom plating is not subjected to a head of oil fuel.

Section 4

AIR, OVERFLOW AND SOUNDING PIPES

Air and Overflow Pipes

401 Air pipes are to be fitted at the opposite end of the tank to that at which the filling pipes are placed and/or at the highest part of the tank.

Where the tank top is of unusual or irregular profile special consideration will be given to the number and position of the air pipes.

Nameplates are to be affixed to the upper ends of all air pipes.

402 Air pipes to double bottom tanks, deep tanks extending to the shell plating or tanks which can be run up from the sea are to be led to above the bulkhead deck.

Air pipes to oil fuel and cargo oil tanks, cofferdams and all tanks which can be pumped up are to be led to the open. (For height of air pipes above deck, *see* D 2911, quoted at end of this Section.)

403 The open ends of air pipes to oil fuel and cargo oil tanks are to be situated where no danger will be incurred from issuing oil or vapour when the tank is being filled and each opening is to be furnished with a wire gauze diaphragm of incorrodible material which can be readily removed for cleaning or renewal.

404 Air pipes from lubricating oil storage tanks may terminate in the machinery space, provided the open ends are so situated that issuing oil cannot come into contact with electrical equipment or heated surfaces.

405 The closing appliances fitted to tank air pipes, in accordance with D 2912, are to be of a type which will prevent excessive pressure coming on the tanks.

Provision is to be made for relieving vacuum when the tanks are being pumped out and for this purpose a hole about 10 mm (0·375 in) in diameter in the bend of the air pipe or in a suitable position in the closing device will be acceptable.

406 In the case of all tanks which can be pumped up, either by the ship's pumps or by shore pumps through a filling main, the total cross-sectional area of the air pipes to

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15.

Cofferdams adjacent to cargo oil tanks are to be provided with sounding pipes having inside diameter exceeding 38 mm and air pipes having inside diameter exceeding 50 mm fitted with wire gauze diaphragms at their outlet.

Art. 16.

Steaming out and fire extinguishing branch connections for cargo oil tanks and cargo oil systems are to be fitted with two stop valves.

Art. 17.

In the cargo pump rooms, drain pipes from steam or exhaust pipes or from the steam cylinders of the pumps are to terminate well above the level of the bilges.

Art. 18.

For tankers intended only for the carriage of oils having a flashing point above 65°C, the requirements of Art. 3, Art. 8 and Para. 1, Art. 9 of this Chapter may be properly modified.

CHAPTER 16. AIR, OVERFLOW AND SOUNDING PIPES

SECTION 1. AIR PIPES

Art. 1. General

-1. In all ships, double bottom tanks, other tanks and cofferdams are to be provided with air pipes so as to permit the free passage of air and gas from any part of the tanks.

-2. Tanks having a comparatively small surface need be fitted with only one air pipe, while tanks having a comparatively large surface are to be fitted with at least two air pipes, one of which is to be located at the highest part of the tank.

-3. Where the tank tops are of unusual or irregular profile, special consideration is to be given to the number and positions of air pipes.

-4. Air pipes are to be arranged to be self-draining.

-5. Name plates are to be affixed to the upper ends of air pipes.

Art. 2. Open Ends of Air Pipes

The top of air pipes on double bottom tanks, deep tanks, cofferdams and other tanks which have the possibility of communicating with sea water are to be led above bulkhead decks. The position of open ends of air pipes are to be in accordance with the following requirements according to the kinds of tanks.

(1) Air pipes to fuel oil and cargo oil tanks, cofferdams and tanks which are filled up by pump pressure are to be led to the open above weather decks.

(2) The open ends of air pipes to fuel oil and cargo oil tanks are to be led to a safe position where there is no possibility of ignition of the overflower oil or gas issuing from the opening when the tank is being filled.

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(3) Air pipes to lubricating oil tanks may terminate in the machinery space, but are to be located so as to preclude the possibility of overflowing oil or gas on electrical equipment or high temperature surface.
(4) Air pipes to fresh water tanks may terminate in machinery space.

Art. 3. Closing Means of Air Pipes at Open Ends

-1. All openings of air pipes extending above weather decks are to be fitted with permanently attached effective means of closing. In ships intended to carry timber deck cargoes on the weather decks, this closing means is to be of an automatic type.

-2. The open ends of air pipes to fuel oil and cargo oil tanks are to be fitted with detachable wire gauze diaphragms of corrosion resistant materials having a clear area through the mesh of not less than the required sectional area of the air pipe.

Art. 4. Sizes of Air Pipes

-1. Internal Diameter of Air Pipes:

(1) The aggregate sectional area of air pipes to tanks which are filled by pump pressure is to be not less than 1.25 times the aggregate sectional area of filling pipes. Where overflow pipes of the sectional area not less than 1.25 times the sectional area of filling pipes are provided, the above requirement may be modified.
(2) The internal diameter of air pipes to tanks or cofferdams which form part of the ship's structures is to be not less than given below.

Cofferdams and fresh water tanks:	38 mm
Ballast tanks:	50 mm
Oil tanks:	64 mm

-2. Air pipes are to be of steel, and the thickness of pipes to tanks which form a part of the ship's structures is to be not less than 4.5 mm.

Art. 5. Height of Air Pipes

Where air pipes extend above the freeboard and superstructure decks, the exposed parts of the pipes are to be of substantial construction; the height from the upper surface of the deck to the point where water may have access below is to be at least

760 mm on the freeboard deck, and
450 mm on the superstructure deck.

Where these heights may interfere with the working of the ship, a lesser height may be accepted, provided that the Society is satisfied that the closing arrangements and other circumstances justify a lower height.

SECTION 2. OVERFLOW PIPES

Art. 6. General

-1. Where tanks which are filled by pump pressure come under either of the following categories, overflow pipes are to be fitted.
(1) Where the sectional area of the air pipes does not comply with the requirement of Para. 1 (1), Art. 4.

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(2) Where there is any opening below the open ends of air pipes fitted to tanks

-2. Overflow pipes are to be led to the open, or alternatively led to proper positions where the overflows can be disposed of.

3. Overflow pipes are to be arranged to be self-draining.

4. Name plates are to be affixed to the upper ends of overflow pipes.

Art. 7. Sizes of Overflow Pipes

-1. The aggregate sectional area of overflow pipes which come under Para. 1, Art. 6 are to be not less than 1.25 times the aggregate sectional area of filling pipes.

-2. Overflow pipes are to be of steel, and the thickness of pipes fitted to tanks which form a part of the ship's structures is to be not less than 4.5 mm.

Art. 8. Overflow Pipes to Fuel Oil Storage Tanks, Settling Tanks, and Service Tanks

-1. Overflow pipes to storage tanks, settling tanks or service tanks are to be led to overflow tanks of sufficient capacity, or to other tanks having a space reserved for overflow purpose.

-2. Overflow pipes are to be provided with sight glasses at a readily visible position, or alternatively an alarm device is to be provided to give warning when the oil reaches a predetermined level in the tanks.

Art. 9. Mutual Communications and Prevention from Counter-flow of Overflow Pipes

-1. Where overflow pipes to deep tanks which are used for the alternative carriage of fuel oil, cargo oil, ballast water, general cargo, etc. are connected to an overflow main common to other tanks, arrangements are to be made to prevent the oil or steam from other tanks overflowing into the deep tank carrying general cargo, or to prevent the oil of different quality or ballast water from other tanks overflowing into the deep tank carrying oil.

-2. Where there is a possibility of admission of sea water to a tank through the overflow main in the event of any one of the tanks in other watertight compartments being bilged, adequate means are to be provided on overflow pipes to prevent the sea water from counter-flowing.

-3. Overflow pipes discharging through the ship's side are to extend as high above the load water line as possible, and are to be provided with non-return valves fitted on the ship's side. Where the overflow pipes do not extend above the freeboard deck, additional effective means are to be provided to prevent the sea water from passing inboard.

SECTION 3. SOUNDING PIPES

Art. 10. General

1. Sounding pipes are to be provided in all tanks, cofferdams and other compartments which are not at all times accessible.

2. Sounding pipes may be replaced by liquid level indicators which are to be of the construction approved by the Committee.

-3. Name plates are to be affixed to the upper ends of sounding pipes.

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EGISTER FOR THE CLASSIFICATION OF SHIPS AND AIRCRAFT

1828 1971

RULES AND REGULATIONS

FOR THE CONSTRUCTION AND CLASSIFICATION

OF

STEEL VESSELS

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15-21 Air pipes

General provisions

1 - Air pipes are to be provided on all ships for compartments normally intended to contain liquid.

Air pipes of cargo tanks in ships intended to carry oil or similar cargoes are to comply with the requirements stated in 15-52.

Air pipes are to be so arranged as to be self-draining when the ship is on an even keel.

Number and position of air pipes

2 - Air pipes are to be so arranged and the upper part of compartments so designed that air or gas likely to accumulate in the said compartments can freely evacuate.

Air pipes are to be fitted opposite the filling pipes and/or at the highest parts of the compartments, the ship being assumed to be on an even keel.

Where the compartment top is of irregular form, the number and position of air pipes will be given special consideration by the Administration.

Where only one air pipe is provided, it is not to be used as filling pipe.

Open ends of air pipes

3 - Air pipes of double-bottom compartments, deep-tanks and other tanks which can be run up from the sea are to be led to above the freeboard deck.

Air pipes of compartments likely to contain liquid fuel, cofferdams and all spaces which can be pumped up are to be led to the open air.

In addition, air pipes of liquid fuel compartments are not to be led to places where danger may be incurred from liquid fuel or vapours escaping from these openings.

Air pipes of lubricating oil tanks and bunkers may be led to the machinery compartment, provided that in case of overflowing the oil cannot come into contact with electrical apparatus or with surfaces likely to be at a high temperature.

The same applies to small tanks intended to receive liquid fuel from drip-trays and gutterways.

Height of air pipes

4 - The height of air pipes above weather deck is not to be less than :

760 millimetres on the freeboard deck,

450 millimetres on the superstructure deck.

This height is to be measured from the upper face of the deck, including sheathing or any other covering, up to the point where water may penetrate inboard.

Lower heights may be admitted, after special examination if justified by the service conditions of the ship and by the arrangements provided for closing the openings of air pipes.

Closing of open ends of air pipes

5 - Efficient devices, permanently attached, are to be provided permitting to obturate the upper openings of air pipes should the necessity arise, in order to prevent any accidental entry of water in the spaces concerned. Means are also to be provided however to prevent any overpressure or vacuum in the tanks when the closing appliances are placed on the air pipes which are used also as overflow pipes.

6 - The open ends of air pipes of tanks intended to contain liquid fuel are to be fitted with a removable non-corrodible wire gauze diaphragm. The cross-section through the wire gauze is to be not less than the required section of the corresponding pipe as defined in 9 hereafter.

7 - There is to be no closing appliance on the air pipes of tanks fitted with cross-flooding connections.

Construction

8 - Air pipes are to be made of steel or any other material approved for the application considered. Steel air pipes are not normally to be less than 4 millimetres thick. This thickness may however be reduced if the pipes are suitably protected from corrosion by an appropriate covering or treatment.

9 - The internal diameter of air pipes is not to be less than 50 millimetres. For small tanks, however, the Administration may admit smaller values of diameter subject to a minimum of 35 millimetres. In each compartment likely to be pumped up, and where no overflow pipe is provided, the total cross-section

of air pipes is to be not less than 1.25 times the cross-section of the corresponding filling pipes.

The size of air pipes for tanks provided with cross-flooding connections will be given special consideration by the Administration.

10 - Nameplates are to be fixed at the upper part of air pipes.

15-22 Overflow pipes

General

1 - Overflow pipes are to be provided, if necessary, in order to prevent, during filling operations, an overload greater than that corresponding to the test pressure prescribed for the compartments. Overflow pipes are also to be provided where the cross-section of air pipes is less than that prescribed in 15-21.9.

Overflow pipes are to be led:

- either to the open,
- or to spaces provided with means for evacuating the liquid likely to escape accidentally from the overflows.

Liquid fuel tanks, bunkers, settling and service tanks

2 - Where an overflow pipe is provided for liquid fuel tanks and bunkers, the discharge is generally to be led to an overflow tank of appropriate capacity.

Overflows from settling and service tanks are generally to be led back either to the fuel bunkers or to an overflow tank of appropriate capacity.

An alarm device or a sight glass is be provided on the overflow pipe to indicate when the tanks are full.

Design of overflow systems

3 - Where overflows from tanks intended to contain the same liquid or different ones are connected to a common main, provision is to be made to prevent any risk of intercommunication between the various tanks in the course of movements of liquid when emptying or filling.

4 - Arrangements are to be made so that a compartment cannot be flooded from the sea through the overflow in the event of an other compartment connected to the same overflow main being bilged. For this purpose, the openings of overflow pipes discharging overboard are generally to be placed above the load waterline; they are to be fitted where necessary with non-return valves on the plating, or any other device of similar efficiency.

5 - Where deep-tanks which can be used to contain liquid cargo or fuel or dry cargo are connected to an overflow main, arrangements are to be made so that liquid or vapours from other compartments cannot enter these deep-tanks when carrying dry cargo.

6 - Overflow systems are to be so arranged as to be self draining when the ship is on an even keel.

Construction

7 - Overflow pipes are to be made of steel or other material approved for the application considered. Normally the thickness of overflow pipes is to be not less than 4 millimetres. This thickness may however be reduced if the pipes are suitably protected from corrosion by an appropriate treatment or covering.

8 - The internal diameter of overflow pipes is not to be less than 50 millimetres. In each compartment which can be pumped up, the total cross-section of overflow pipes is not to be less than 1.25 times the cross-section of the corresponding filling pipes.

15-23 Sounding devices and pipes

General

1 - Arrangements are to be made for sounding the tanks intended to contain liquid as well as all compartments which are not readily accessible at all times.

For compartments normally intended to contain liquid the sounding device may be a level indicator system of appropriate type satisfying the conditions stated in 9 and 10 hereafter.

Upper ends of sounding pipes

2 - Normally, the sounding pipes are to end up above the freeboard deck in easily accessible places and are to be fitted with efficient closing appliances permanently attached.

DEPARTMENT OF TRANSPORTATION
U. S. COAST GUARD
CG-2692 (Rev. 3-67)

REPORT OF VESSEL CASUALTY OR ACCIDENT

Form Approved Budget Bureau No. 68-R114.5

REPORTS CONTROL SYMBOL MVI-4017

INSTRUCTIONS

1. An original and two copies of this form shall be submitted, without delay, to the Officer in Charge, Marine Inspection, in whose district the casualty occurred, or in whose district the vessel first arrived after such casualty.
2. If the person making the report is a licensed officer on a vessel required to be manned by such officer, he must make the report in writing and in person to the proper Marine Inspector. If because of distance it may be inconvenient for such an officer to submit the report in person, he may submit the required number of copies by mail. However, to avoid delay in investigations, it is desired that reports be submitted in person.
3. This form should be completed in full; blocks which do not apply to a particular case should be indicated as "NA". Where answers are unknown or none, they should be indicated as such. All copies should be signed.

NOTE: (1) Report all deaths and injuries, which incapacitate in excess of 72 hours, on CG-924E whether or not there was a vessel casualty.
(2) Attach separate Form CG-924E to this report for each person killed or injured and incapacitated in excess of 72 hours as a result of the vessel casualty reported herein.

TO: Officer in Charge, Marine Inspection, Port of New York

DATE SUBMITTED: April 2, 1971

I PARTICULARS OF VESSEL

1. NAME OF VESSEL	2. OFFICIAL NUMBER	3. HOME PORT	4. NATIONALITY
TRADE DARING	3505	Monrovia	Liberia

5. TYPE OF VESSEL (Frt., pass., tkr., etc)	6. PROPULSION (Steam, diesel, etc)	7. GROSS TONNAGE	8. REGISTERED LENGTH OR L.O.A.
Ore/Oil	Diesel	15510	607' - 5"

9. HULL MATERIALS	10. YEAR BUILT	11. RADIO EQUIPMENT
Steel	1955	☒ TRANSMIT ☒ RECEIVE ☐ VOICE ☐ CW (Key)

12. (a) RADAR EQUIPPED	(b) IF YES, RADAR OPERATING AT TIME OF CASUALTY
NA ☐ YES ☐ NO	☐ YES ☐ NO

13. (a) CERTIFICATE OF INSPECTION ISSUED AT PORT OF	(b) DATE CERTIFICATE OF INSPECTION ISSUED
NA	

14. (a) NAME OF MASTER OR PERSON IN CHARGE (Indicate which)	(b) DATE OF BIRTH	(c) LICENSED BY COAST GUARD
Petros D. Gialourakis, Master	1933	☐ YES NA ☐ NO

15. (a) NAME OF PILOT (If on board at time of accident)	(b) PILOT SERVING UNDER AUTHORITY OF LICENSE ISSUED BY
NA	☐ USCG ☐ STATE ☐ FOREIGN

16. (a) NAME OF OWNER(S), OPERATOR(S) OR AGENT (Indicate which)	(b) ADDRESS OF OWNER(S), OPERATOR(S), OR AGENT
Navieros Oceanikos, S.A.	Panama

II PARTICULARS OF CASUALTY

17. (a) DATE OF CASUALTY	(b) TIME OF CASUALTY (Local or zone)	(c) ZONE DESCRIPTION	(d) TIME OF DAY
3/18/71	0052 LCT	+5	☐ DAY ☒ NIGHT ☐ TWILIGHT

18. LOCATION OF CASUALTY (Latitude and longitude; distance and TRUE bearing from charted object; dock; anchorage; etc.)
Vessel alongside Hess Oil Terminal, Perth Amboy, New Jersey

19. BODY OF WATER (Geographical name)	20. RULES OF THE ROAD APPLICABLE
Arthur Kill	☐ INLAND ☐ GREAT LAKES ☐ WESTERN RIVERS ☐ INTERNATIONAL ☐ OTHER (Specify) NA

21. (a) DID CASUALTY OCCUR WHILE UNDERWAY: ☐ YES ☒ NO

(b) IF YES, LAST PORT OF DEPARTURE	(c) IF YES, WHERE BOUND WHEN CASUALTY OCCURRED

22. (a) WEATHER CONDITIONS WHEN CASUALTY OCCURRED:
☐ CLEAR ☐ PARTLY CLOUDY ☐ OVERCAST ☐ FOG ☐ RAIN ☐ SNOW ☐ OTHER (Specify)

(b) VISIBILITY (Miles, yds., ft., etc.)	(c) WIND DIRECTION	(d) FORCE IN KNOTS	(e) GUSTY	(f) AIR TEMPERATURE
	NW		☐ YES ☐ NO	

23. (a) SEA CONDITIONS WHEN CASUALTY OCCURRED	(b) SEA WATER TEMP (If available)	(c) HEIGHT OF SEA	(d) DIRECTION OF SEA	(e) HEIGHT OF SWELL	(f) DIRECTION OF SWELL
NA					

24. (a) NATURE OF CARGO (Specify)	(b) AMOUNT OF DRY CARGO (Long tons)	(c) AMOUNT OF BULK LIQUID (Long tons)	(d) AMOUNT OF DECK LOAD (Long tons)
NA			

25. (a) DRAFT FORWARD	(b) DRAFT AFT
2' - 0"	20' - 0"

26. (a) TYPES OF LIFESAVING EQUIPMENT USED, IF ANY	(b) NO. LIVES SAVED WITH LIFESAVING EQUIPMENT	(c) LIFESAVING EQUIPMENT SATISFACTORY
NA		☐ YES ☐ NO (If no, explain in item 34)

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DEFENDANTS' EXHIBIT 70

27	CREW	PASSENGERS	OTHER (Specify)
NUMBER ON BOARD	35		
DEAD/MISSING	-0-		
INCAPACITATED (over 3 days)	-0-		

28	
ESTIMATED LOSS/DAMAGE TO YOUR VESSEL	$3,116,000
ESTIMATED LOSS/DAMAGE TO YOUR CARGO	$ -0-
ESTIMATED LOSS/DAMAGE TO OTHER PROPERTY (Specify whether vessel, dock, bridge, etc.)	$ -0-

29. NATURE OF THE CASUALTY (Check one or more of the following. Give pertinent details in item 30.)

	COLLISION WITH OTHER VESSEL(S) (Specify)		EXPLOSION/FIRE (Other)
			GROUNDING
			FOUNDER (Sinking)
	COLLISION WITH FLOATING OR SUBMERGED OBJECTS		CAPSIZING WITHOUT SINKING
	COLLISION WITH FIXED OBJECTS (Piers, bridges, etc.)		FLOODING, SWAMPING ETC. WITHOUT SINKING
	COLLISION WITH ICE		HEAVY WEATHER DAMAGE
	COLLISION WITH AIDS TO NAVIGATION		CARGO DAMAGE (No vessel damage)
	COLLISION (Other)		MATERIAL FAILURE (Vessel structure)
	EXPLOSION/FIRE (Involving cargo)		MATERIAL FAILURE (Engineering machinery, including main propulsion, auxiliaries, boilers, evaporators, deck machinery, electrical, etc.)
X	EXPLOSION/FIRE (Involving vessel's fuel)		
X	FIRE (Vessel's structure or equipment)		EQUIPMENT FAILURE
	EXPLOSION (Boiler and associated parts)		CASUALTY NOT NAMED ABOVE
	EXPLOSION (Pressure vessels and compressed gas cylinders)		

30. DESCRIPTION OF CASUALTY (Events and circumstances leading to casualty and present when it occurred. Attach diagram and additional sheets, if necessary)

(See copy of Master's Protest annexed hereto)

31. DAMAGE (Give brief general description and state if vessel is a total loss.)

Vessel's engine room and superstructure aft burned out.
Vessel is constructive total loss.

III ASSISTANCE AND RECOMMENDATIONS

32. AUTO ALARM TRANSMITTED BY YOUR VESSEL: ☐ YES ☐ NO

33(a) ASSISTANCE RENDERED BY STATIONS AND VESSELS (Include Coast Guard and other stations and vessels)	(b) OTHER ASSISTANCE RENDERED

34. RECOMMENDATIONS FOR CORRECTIVE SAFETY MEASURES PERTINENT TO THIS CASUALTY (Include explanation of unsatisfactory lifesaving equipment)

TITLE	SIGNATURE

DEFENDANTS' EXHIBIT 71. 293

THE REPUBLIC OF LIBERIA
TREASURY DEPARTMENT
BUREAU OF MARITIME AFFAIRS

THIS SPACE FOR OFFICIAL USE ONLY

REPORT OF VESSEL CASUALTY OR ACCIDENT

INSTRUCTIONS

1. An original and two copies of this form shall be submitted to the Commissioner or a Deputy Commissioner of Maritime Affairs as soon after the occurrence of the casualty as possible.
2. This form must be completed in full. Entries which do not relate to a particular case should be indicated as not applicable by inserting the initials "N.A."
3. This form should be completed by the Master or person in charge, or, if neither is available, by the owner or his duly authorized agent.
4. Attach crew list to this form. Attach separate Form 109-1 to this report for each person killed or injured and incapacitated in excess of 72 hours as a result of the vessel casualty reported herein.

I. PARTICULARS OF VESSEL

1. Name of Vessel	2. Official Number	3. Year Built	4. Gross Tonnage	5. Net Tonnage
Trade Daring	3505	1955	15510	7161

6. Type of Vessel (See Note 1.)	7. Propulsion (See Note 2.)	8. Place Built
Ore/Oil	Diesel	Kieler Howaldtswerke A.G. GERMANY

9. Name of Owner	10. Name, Address and Telephone of Managing Agent
Navieros Oceanikos S.A.	Brokerage & Management Corp. 76 Beaver Street New York, New York

11.(a) Name of Master or Person in Charge	(b) Citizenship	(c) Date of Birth	(d) License Grade and Date of Issue
Petros Gialourakis	Greek	1933	Greek

II. PARTICULARS OF CASUALTY

12.(a) Date of Casualty	(b) Time (Local or Zone)	(c) Zone Description	(d) Time of Day
March 18 1971	0052 H 3/18/71		☐ Day ☒ Night ☐ Twilight

13. Geographical Location of Casualty (See Note 3.)	14. Geographical Name of Body of Water
Perth Amboy, New Jersey Hess Refinery	Perth Amboy New Jersey

15.(a) If Casualty occurred underway, Port of Departure	(b) Date of Departure	(c) Port to Which Bound
Port of departure	3/18/71	Aruba, Caribbean

16.(a) Nature of Cargo (Describe and give amounts in Long Tons)	(b) Amount Dry Cargo	(c) Amount Bulk Liquid	(d) Amount Deck Cargo
Vessel had discharged oil.	None	None	None

17. Speed in Knots Prior to Casualty	18. True Course Prior to Casualty	19. Draft Forward	20. Draft Aft
14	Ship was alongside	1800"	2000"

21. Atmospheric Conditions at Time of Casualty (Check one or more of the following)
☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Fog ☐ Rain ☐ Snow ☐ Other (Specify)

22. Distance of Visibility	23. Wind	24. Sea	25. Wind Direction
☐ Under 2 Miles	☒ Light	☒ Smooth to Slight	N/A
☐ 2-5 Miles	☐ Moderate to Fresh	☐ Moderate to Rough	26. Direction of Sea N/A
☒ Over 5 Miles	☐ Storm to Hurricane	☐ High	27. Direction of Swell

28. Navigation Equipment (Check one or more of the following)		29. Communications Equipment (Check one or more of the following)	
☐ Radar	☐ Loran	(a) Radiotelephone	(b) CW (Key)
☐ Inoperative	☐ Inoperative	☐ In Use with Other Vessels	☐ In Use with Other Vessels
☐ Not Used	☐ Not Used	☒ In Use with Shore Stations	☐ In Use with Shore Stations
☒ Used	☒ Used	☐ Not Used	☐ Not Used

30. Auto Alarm Transmitted by your Vessel?	31. Rules of the Road Applicable at Time
☐ Yes ☒ No	☐ International ☐ Other (Specify) N.A.

Note 1. Type of Vessel—General Cargo, Oil Tanker, Ore/Oil Carrier, Passenger, Bulk Carrier, Ore Carrier, Tug, etc.
Note 2. Propulsion—Steam Reciprocating, Steam Turbine, Turbo-Electric; Diesel, Diesel-Electric, etc.
Note 3. Location—If open sea, Latitude and Longitude; give distance to and name of nearest shore; if near coast give distance and true bearing to charted object; if in port, straits, river, channel, etc., give name.

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Off Grf fil

ACTIVITY REPORT OF MOTOR VESSEL

VESSEL NO. 455

NAME OF MOTOR VESSEL MOBIL TRADER

KS C 1/3/74

CO-1645 B (10-67)

PAGE 1 OF 1

YEAR 19 71

WTCH-AGE	DATE MO/DAY	TIME COMPLETED	LOCATION (AT COMPLETION OF ACTIVITY)	PORT CODE	ACTIVITY	TYPE	ACT. CODE	REMARKS
5—7	8—11	12—15	16—30	31	34—36	37	38 & 39	CARD COLUMN 80=8
061	03/17	1340	PORT MOBIL	775	START NEW VOYAGE		91	
"	"	1350	" "	"	MOORING - INSP	L	04	
"	"	1420	" "	"	WAIT SHORE READINESS	L	40	
"	"	1520	" "	"	PUMPING	L	08	
"	"	1540	" "	"	ULLAGING	L	04	
"	"	1900	" "	"	WAIT DELIVERY TIME	C	46	RADIO REPAIRS 1530-1830
"	"	1930	PERTH AMBOY	926	LOADED RUN	C	22	
"	"	1930	" "	"	MOORING	D	04	
"	"	2220	" "	"	WAIT SHIP READINESS	D	40	
"	"	2250	" "	"	HOOK UP & INSP	D	04	
"	03/18	0045	" "	"	PUMPING	D	08	
"	"	0105	" "	"	UNMOORING	D	04	SHIP AFIRE IN AFTER HOUSE
"	"	0126	PORT MOBIL	775	LIGHT RUN	D	22	LOST ONE 4" HOSE & 1 HOSE BLANK DUE TO
"	"	0200	" "	"	SECURING VESSEL		90	FIRE ABOARD SHIP
"	"	0200	" "	775	END OF VOYAGE		99	

DEFENDANTS' EXHIBIT 82.

LOADING

PRODUCTS	GALLONS	LOAD PORT	TANK NUMBERS PORT	TANK NUMBERS STARBOARD	START DATE	START TIME	FINISH DATE	FINISH TIME	METHOD OF LOADING
BB DIESEL	115424	PORT MOBIL	1-3	3	03/17	1420	03/17	1520	Hose

DISCHARGING

PRODUCT	GALLONS	DISCHARGE PORT	TANK NUMBERS PORT	TANK NUMBERS STARBOARD	START DATE	START TIME	FINISH DATE	FINISH TIME	METHOD OF DISCHARGING
BB DIESEL	115424	PERTH AMBOY	1-3	3	03/17	2250	03/18	0645	6" & 4" Hose

What was the condition of vessel tanks before loading? M-T-Y

Were vessel tanks examined by load port representative? Yes

Were vessel tanks examined for water after loading?

Were vessel tanks examined for water before discharging?

Were vessel tanks pumped dry and examined by consignee? yes X no

What was the condition of vessel tanks after discharging? M-T-Y
(SOUND SOUNDED DEEPEST, EACH TANK)

DEPARTURE PORT	DRAFT FORWARD	DRAFT AFT	ARRIVAL PORT	DRAFT FORWARD	DRAFT AFT
PORT MOBIL	3-0	8-0	PERTH AMBOY	3-0	8-6
PERTH AMBOY	0-0	3-6	PORT MOBIL	0-0	3-6

ABOVE ANSWERS APPROVED BY SIGNATURE

	FIRST LOAD PORT	SECOND LOAD PORT	FIRST DISCHARGE PORT	SECOND DISCHARGE PORT
PORT REPR.				
VESSEL REPR.	H Banks		H Banks	

SIGNED Richard N Banks (CAPTAIN)

DEFENDANTS' EXHIBIT 82

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DEFENDANTS' EXHIBIT 88.
Kelley 12

Q Well, is it a fact that Capt. Banks would have requested the shore facilities to deliver a certain number of barrels or gallons? Is he the one who actually ordered a certain number to be sent on board, placed on board his vessel?

A Well, we received the order and I imagine Capt. Banks received the order too, what he was going to receive. We proceed in giving him what the order called for.

Q Well, the order comes to you in tons, is that correct?

A That's correct.

Q And you said before that Capt. Banks would make the conversion to barrels?

A Yes.

Q And would there be a further conversion made to gallons?

A I'm sorry.

That is in gallons.

Q In gallons?

A Yes, I'm sorry.

MR. JULIANO: What's your answer now?

THE WITNESS: It's in gallons.

When we converted, it is in gallons in that

DEFENDANTS' EXHIBIT 88
Kelley 16

Q Were you standing by this valve at all times when this was being loaded?

A Within walking distance of it.

Q And within sight of the pump man on board?

A Yes.

Q So that if he gave you the signal, you could shut it off immediately and avoid a spill, is that right?

A Yes.

Q That's very important, isn't it?

A Yes, very important.

Q Have you ever had any spillages down at Port Mobil vessels of overflowing of your barge tanks?

A I never had, no.

Q Have you heard of any out there?

A We have had accidents, yes.

MR. JULIANO: Note my objection to the last question.

Q Can you tell from any of the records that have been shown to you this afternoon, how long it took to pump the cargo from the short tanks into the Mobil Trader on this particular occasion?

A It would show on the barge report.

MR. JULIANO: That's up in the front.

DEFENDANTS' EXHIBIT 88
Kelley 17

Q Referring to Exhibit C in Defendant's answers to Interrogatories, can you tell us how long it took to load the Mobil Trader?

Q We started the load at 2:20 and it was finished at 3:10.

Q Who told you to stop loading the Mobil Trader?

A The man on the deck.

Q Do you recall who that was?

A I don't know.

Q Do you Know a Mr. Millano?

A Yes.

Q Does that refresh your recollection?

A Well, there are two deck men, Millano and George, oh, I forget his last name, but there is another deck man there. It is more than likely it was Millano who shut it off.

Q Was it a Mr. George Beekman?

A Was it Mr. Beekman? That I don't know. George, I know.

Q He signaled you, or whoever it was on deck at the time on the Mobil Trader -- signaled you to cut off the flow of the cargo through the lines and you did so immediately, I assume, is that correct?

DEFENDANTS' EXHIBIT 88

hatch 'til you hit "product." In other words, if you go down with your tape fourteen feet and there is a foot bob on the end of the tape, when you go down fourteen feet on the tape, the bob goes into the product maybe six inches. So you would come up with fourteen feet, six inches of space. You would subtract that from the height of the tank, which would give you actual product in the tank.

Q Now this gauge, then, actually is what, a tape?

A Yes, sir.

Q Is it a tape?

A Manual tape. It is all done manually.

Q Is it a tape that forms a permanent part of the structure, or is it a portable tape that is carried with the workmen to the top?

A That's correct.

Q And he lowers it through a manhole?

A Through a hatch, four inch nipple on top of the tank.

Q I note on the third column from the right, a column heads "Tank Temp," that means --

A Temperature.

Q Is there a temperature measuring device

DEFENDANTS' EXHIBIT 88
Kelley 22

on a tank?

A No, sir. It's done by hand too. You put a thermometer down in the product.

Q Have you ever done that?

A Yes, sir.

Q Would you tell us exactly how that would have been done on tank number nine? Exactly what procedure do you follow?

A You take a thermometer and you hook it onto your tape, it has a snap hook onto it. You lower it down into the product, leave it there for a few minutes, draw it up, read the thermometer, read the temperature.

Q How far down is it lowered?

A Into the product, three hundred forty-six THREE - FOUR - SIX feet probably below the product, maybe more.

Q What is the height of this tank?

A Sixty feet some odd, sixty feet some odd inches.

I don't know exactly. They are all around sixty feet. They vary, sixty feet, two inches.

Q On this third column from the left it says "overall gauge," and there is a certain breakdown in that column into feet and inches. I believe this is thirteen feet. It might be a "twelve" but it looks like

DEFENDANTS' EXHIBIT 88
Kelley 23

thirteen feet, one and a quarter inches. What distance does that represent? Is it from the top of the tank to the product?

A This is actual -- I believe, this is overall gauge. This is actual product in the tank. In other words, there are thirteen feet. It looks like thirteen feet, one and a quarter inches of product, from the bottom of the product until you start hitting air.

Q And the figures written below that -- that is in the same column overall gauge, eleven feet, one and a half inches -- would that mean the height of the product in the tank after the product has been sent into the barge, or wherever?

A Yes.

Q In this case, the Mobil Trader?

A Yes.

Q In connection with this particular delivery to the Mobil Trader -- did you take the temperature at that time?

A I don't believe so. I don't know.

Q Is that one of your normal duties, among other things, to take the tank temperatures before and after delivery?

DEFENDANTS' EXHIBIT 88
elley 24

A No. This particular tank, almost all tanks, are on a twenty-four hour schedule. You just gauge them once in twenty-four hours. It was probably gauged after midnight of the 17th, I guess. Was it the 17th?

Q You mean if gauging of the tank might not necessarily take place before delivery. It would take place at some one time?

A That's right.

Q And after delivery is made, it would be regauged to show the difference?

MR. JULIANO: Objection.

Q Is that what you are saying?

MR. JULIANO: Answer the question.

A It would be gauged twenty-four hours later. In other words, they may have gauged that tank at 1:00 o'clock in the morning. That tank wouldn't be gauged again until maybe 2:00, 3:00, 4:00 o'clock the following morning.

It all depends.

You just go up there on the split minute or the split hour. When you get a chance to go up to do it you go up and do it.

The foreman tells you when he wants it back.

DEFENDANTS' EXHIBIT 88
Kelley 25

Q After the product is delivered --

A It's always carried.

It's a new day's figure, in other words.

Q After the product is delivered, taken immediately after to determine how much product has been delivered?

A No.

Q In other words, on this twenty-four hour basis, if you took a gauging say at 1:00 o'clock in the morning one day and then two or three barges were filled from that tank, your next gauging would show the result of having filled those two ~~hundred thirty-six~~ OR THREE barges?

A It would show on all those pumps TANKS. If there was more than one barge loaded out of that particular tank; in this particular instance it looks like to me there was only one barge loaded on it.

The twenty-four hour stretch.

That was the only barge loaded out.

Q That was my question. After a barge is loaded, after a product has been delivered from tank number nine to a barge, is the tank gauged immediately after that to find out how much was delivered to that barge?

A No, because there may be other barges to be loaded after this one. So we carry it over until the new day. Then we get a new gauge. We do gauge it after every receipt every time we load a vessel up.

Q Well, looking at this short tank report, would that tell you that the Mobil Trader was the only barge that was loaded during the twenty-four hour period?

A Yes, sir.

Q That was covered by this short tank report?

A Yes, sir.

Q In the fourth column from the right, there is this heading "Adjusted net measured sixty degrees" and below that, immediately below that in handwriting, is "one point zero, zero four."

Could you tell us what that one point zero, zero point four means?

A I don't know.

Q Do you ever, in the course of your duties, perform the calculations necessary to convert gross volume -- in this case, from gross barrels or gallons to net volume?

A No, sir.

Q Who in ordinary course would be involved in those calculations at tank number nine?

DEFENDANTS' EXHIBIT 88
Kelley 27

A The auditing department.

Q Based on any of the records that have been shown to you today, or that Mr. Juliano has shown to you before coming here to testify, can you tell us how many gallons were delivered to the Mobil Trader on this occasion?

A I would have to look up the sheet. (Witness examines.)

According to this there was one hundred fifteen thousand, four hundred twenty-four gallons.

Q You are referring to Exhibit "C" which is a barge report, is that correct?

A Yes.

Q You didn't take any measurements yourself or make any calculations to determine that amount, is that correct?

A No, sir.

Q I note on the barge report, which is this Exhibit C and which is also the document you signed, the draft of the vessel is the fore and aft drafts, both before loading and after loading, apparently. Did you take the drafts of the Mobil Trader?

A No.

Q Do you ever in the course of your duties

take the drafts of a vessel being loaded?

A No, sir.

Q Did you notice whether the Mobil Trader before loading had a list on her?

A I don't remember, no, sir.

Q Do you know if she had a list after loading?

A I don't think I had a list on it -- not according to those figures.

Q Is any of the cargo or product you delivered heated to a barge vessel?

A Some product is heated, yes; heavy bunker oil.

Q Is it heated on shore and delivered in a heated condition?

A That is correct.

Q Can you tell us what the temperature was by reference to any of those records, of the product on shore at the time it was delivered -- that is, the temperature of the shore tank?

A It just showed on this.

You have to look at the shore tank settlement sheet. Forty-six degrees was the opener and the next reading was forty-four degrees.

Q Could you tell us what the temperature of the product in the short tank was at the time it was

DEFENDANTS' EXHIBIT 88
Kelley 29

delivered to the Mobil Trader?

A Forty-six degrees, according to this.

Q Do you know if the Mobil Trader has any heating equipment or heating coils to heat the product or to keep it hot while it is on board at the Mobil Trader?

A I believe it has.

Q Do you know what the water temperature was at the time the Mobil Trader received the product from the shore tanks?

A It says thirty-seven degrees here. That is an approximate figure.

Q You say it is an approximate. Did you take that temperature?

A No.

Q Did you fill that in?

A Filled it in as a matter of form. In the wintertime we fill it in anywhere from thirty-five to forty degrees.

Q You do actually take the temperature?

A We do take temperatures.

Q Well, if the water is very cold -- let's say ten degrees colder than the product -- and the product is delivered into a steel hull ship which has

DEFENDANTS' EXHIBIT 38
Kelley 31

MR. JULIANO: Millano.

Q Did you see him read the temperatures?

A He called it off to me.

Q What temperature did he tell you?

A It is on the barge report.

Q Where was this thermometer located?

A In one of the compartments.

MR. JULIANO: Let the record indicate the witness pointed to a figure on the barge report.

MR. DALY: Exhibit C.

MR. JULIANO: That figure is forty-five degrees.

Q Physically, where is that thermometer located?

A Where? It is on board the Mobil Trader. It is in one of the compartments he was filling.

I don't know which one.

Q Is it a permanent, fixed thermometer?

A No.

It is on a string. It is moved from compartment to compartment, as they need them.

Q Did he lower it down into the compartment?

DEFENDANTS' EXHIBIT 88
Kelley 32

A It is in there all the time the compartment is being filled.

Q How far down is the thermometer, if you know.

A Half way, I presume. It is into the product, that's for sure.

Q You say it is hanging on a string?

A Yes.

Q You say it is on a string?

A Yes, sir.

Q And you saw him pull it off?

A Yes, sir.

Q And you saw him read it?

A Yes, sir.

Q And in each case the temperature was exactly forty-five degrees?

A Yes, sir.

Q Had the Mobil Trader called at port Mobil any time earlier that day -- that is, on March 17 -- to take on any other product other than the product destined for the Trade Daring?

A I don't know.

Q I show you this delivery receipt, copy of which has been furnished by defendant counsel to us,

DEFENDANTS' EXHIBIT 92.

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To Mr. White from [illegible]

[illegible] Sales and Supply Corporation

marine fuel oil sales

CONTRACT NO. A-60

CONTRACT made as of this first day of January, 1971; between MOBIL SALES AND SUPPLY CORPORATION, [illegible] East 42nd Street, New York, New York 10017 (hereinafter called "Seller") and TRADE AND TRANSPORT INC. 76 Beaver Street, New York, New York 10005 (hereinafter called "Buyer"):

BEST COPY AVAILABLE

ARTICLE 1. PERIOD

This Contract shall be effective as from the first day of January, 1971, through December 31, 1971. Said period is referred to hereinafter as the "Contract Period."

ARTICLE 2. QUANTITY

(a) During the Contract Period Seller shall sell and deliver or cause to be sold and delivered by such suppliers as Seller may select (hereinafter referred to as Seller's supplier or suppliers), and Buyer shall purchase and accept delivery from Seller or Seller's suppliers the following quantities of Marine Fuels and at the ports/areas indicated (hereinafter "the Contract Ports/Areas"):

CONTRACT PORTS/AREAS	Contract Volumes (Long Tons)* or (Barrels)* FUEL/LIGHT FUEL	DIESEL
U.S.N.H. New York/Philadelphia/Paulsboro/Baltimore/ Norfolk/Newport News	10,000 bbls.	2,000 bbls.
San Francisco/San Pedro/Los Angeles	45,000 bbls.	2,000 bbls.
Panama	10,000 bbls.	2,000 bbls.
South Africa	40,000 bbls.	5,000 bbls.
Dakar	40,000 bbls.	6,000 bbls.
Aden/Djibouti	5,000 bbls.	1,000 bbls.
Gibraltar/Ceuta	40,000 bbls.	5,000 bbls.
Persian Gulf	15,000 bbls.	3,000 bbls.
Singapore	25,000 bbls.	4,000 bbls.
	230,000 bbls.	30,000 bbls.

(i) Volumes subject to 10% plus or minus.
(ii). Maximum volume to be lifted at any single month is 40,000 bbls.

(b) Above quantities are referred to hereinafter as the "Contract Quantity".

ARTICLE 3. LIMITATIONS

Seller's obligation to make any delivery hereunder is subject to availability to Seller, at the Contract Port at which such delivery is requested, of the particular grade or grades of marine fuel oils desired by Buyer. The grade or grades of marine fuel oils which will normally be available at each Contract Port will be indicated on Seller's Marine Fuels Contract Price List including any amendments thereto, in effect on date of delivery. Seller or any supplier of Seller may at any time and from time to time without notice to Buyer, change, with respect to any one or more Contract Ports, the grade or grades of marine fuel oils which will be thereafter available.

ARTICLE 4. QUALITY

The marine fuel oils to be delivered hereunder include all commercial grades marketed by Seller or its supplier which are available at time and place of delivery as follows: Fuel Oils (including Light Fuel Oil for use in motor ships); Diesel Oils (including Gas Oil).

* Delete whichever inappropriate.

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ARTICLE 5. PRICES

(a) Except as noted below, prices shall be Seller's or its supplier's prices as set forth in Seller's Marine Fuels Contract Price List including any amendments thereto, as in effect on date of delivery.

CONTRACT PORTS/AREAS	FUEL/LIGHT FUEL	DIESEL
U.S.M.H. New York/Philadelphia/Paulsboro/ Baltimore/Norfolk/Newport News	$.11/barrel	$.11/barrel
San Francisco/San Pedro/Los Angeles	$.10/barrel	$.10/barrel
Panama	$.12/barrel	$.12/barrel
South Africa	$1.90/long ton	$1.90/long ton
Dakar	$1.20/long ton	$1.20/long ton
Aden/Djibouti	$1.00/long ton	$1.00/long ton
Persian Gulf	$1.50/long ton	$1.50/long ton
Ceuta	$.50/long ton	$.50/long ton
Singapore	$1.90/long ton	$1.90/long ton

(i) The foregoing list of ports is not all inclusive, and if you have requirements at other ports, we shall be glad upon inquiry to determine and advise what special allowance, if any, can be offered at such port.

(ii) Should our posted contract price be reduced 5¢ per barrel below today's levels, then the special allowance factors shall be subject to renegotiation.

(iii) The foregoing price allowances shall be retroactive to cover all deliveries made since January 1, 1971.

(iv) The basic special allowance will be included in current invoices.

(v) A volume bonus of $2,000 will be payable to you provided your total liftings for 1971 reach or exceed 260,000 barrels of Fuel Oil, Light Fuel Oil and Marine Diesel at ports indicated on Page 1, Article 2, at year end and when all liftings have been recorded.

(vi) Brokerage and Management Corporation will be recognized as your broker to which normal brokerage commission will be paid.

CREDIT: 90 Days from Date of Invoice.

PAYMENT: In U.S. Dollars

(b) The amount of (1) any new or additional tax, fee, duty or charge (not specifically included in the price or otherwise paid by Buyer) imposed after the date hereof on or measured by (i) this Contract, (ii) the marine fuel oils covered hereby or the constituents thereof, (iii) the production, manufacture, storage, sale, use, export, import, transportation, delivery or handling of said marine fuel oils or constituents, or on any vessel, pipeline or other facilities used therein, and (2) any new or additional financial burden incurred by Seller or its supplier by reason of arrangements with the government of an oil producing country, shall be added to the purchase price herein stated and paid by Buyer to Seller.

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ARTICLE 6. PAYMENT

Payment shall be made without discount in U.S. dollars to Seller at its above address within thirty (30) days of the date of Seller's invoice (or an invoice from an assignee or supplier of Seller) showing the quantity delivered and the amount due, including any other charges payable by Buyer as herein provided. Each delivery shall be deemed to be a separate contract. Sales shall be made on the credit of the receiving vessel as well as on Buyer's promise to pay, and the amount due shall immediately upon each delivery become a maritime lien against the vessel. Overdue payments shall bear interest at the rate of one percent (1%) per month or any part thereof. At any time and from time to time Seller may, if Seller considers that it would be inadvisable to make a delivery to Buyer on credit, request that Buyer pay cash in advance or deposit with Seller security acceptable to Seller and, in such event, until Buyer shall comply with Seller's request, no deliveries need be made hereunder.

ARTICLE 7. DELIVERIES

(a) Deliveries shall be made in bunker lots at shore terminals of Seller or its supplier, or at Seller's option by barge where barging facilities are available. At Contract Ports in the continental U.S.A. Buyer shall give Seller or its supplier at least forty-eight (48) hours notice of requirements (Sundays and holidays excluded) prior to the time of requested delivery. At Contract Ports elsewhere, Buyer shall give Seller or its supplier at least fourteen (14) days notice of requirements, with confirmation at least forty-eight (48) hours (Sundays and holidays excluded) prior to the time of requested delivery. Such notices and confirmations shall specify the name of the vessel, requested time for delivery, requested place and method of delivery, and type and quantity of marine fuel oils.

(b) Buyer shall make all connections and disconnections of delivery hose to vessel. Delivery shall be complete and title and risk of loss shall pass to Buyer at vessel's permanent hose connection. Buyer warrants that each vessel will be properly equipped, maintained and operated so as to avoid leakage, spillage, overflow or water or land pollution and shall hold Seller and its supplier harmless and indemnify Seller and its supplier against any claim, action, suit, assessment, fine, levy, penalty or exaction of a like nature instituted by any person (including public authorities) resulting from any such alleged leakage, spillage, overflow, or water or land pollution asserted or assessed against Seller or its supplier on the ground of damages alleged to have resulted from any such alleged leakage, spillage, overflow, or water or land pollution, except insofar as it shall be established that such damage resulted exclusively from negligence of Seller or its supplier.

(c) Seller or its supplier will use its best efforts to make deliveries in the order in which requests and confirmations for delivery are received. Seller or its supplier shall not be liable for any loss or demurrage on account of delays in delivery resulting from congestion, commitments to supply customers other than Buyer, or any other cause whatsoever. Deliveries shall normally be made during regular business hours, provided that at Buyer's request deliveries may be made at such other times (including Saturday afternoons) as may be permitted by port regulations, and any extra expense incurred thereby shall be paid by Buyer.

(d) Buyer shall promptly take delivery and promptly withdraw vessel from terminal. In the event of delay by Buyer in the use of delivery or barging facilities or in vacating berth or withdrawing from terminal, Buyer shall reimburse Seller or its supplier for any damages incurred by Seller or its supplier, including but not limited to claims, by other customers for delays in berthing and/or taking deliveries.

(e) When deliveries are made by barge, Buyer shall pay to Seller or its supplier the barge rates which are in effect on date of delivery as established by Seller or its supplier plus any taxes, levies, assessments or exactions of a like nature related to such delivery by barge. Buyer shall without charge immediately furnish clear and safe berth for barge alongside vessel's receiving lines and furnish or pay for necessary steam.

(f) Seller or its supplier shall not be required to make delivery, whether at terminal or by barge, whenever in the opinion of Seller or its supplier a clear and safe berth is not available.

ARTICLE 8. QUANTITY DETERMINATION

Quantity shall be determined at Seller's or its supplier's option from the gauge or meter of shore or barge tanks. Such determination shall be conclusive but Buyer shall have the right to be represented at time of measurement. Volume shall be adjusted to 60°F. under prevailing ASTM-IP Petroleum Measurement tables currently designated ASTM, D-1250 (IP 200). Complaint as to quantity must be made to Seller's or its supplier's representative at time of delivery and confirmed in writing within 10 days. A barrel is 42 U. S. gallons at 60°F. A ton is 2,240 pounds unless a metric ton is indicated which is 2,204.6 pounds.

ARTICLE 9. QUALITY DETERMINATION

Complaint as to quality must be based on tests made as soon as possible by an independent laboratory of samples taken at time of delivery from the shore tank or barge from which delivery is made. Any such complaint must be made in writing to Seller or its supplier within ten (10) days of delivery. Samples taken by Buyer shall be sealed and identified by signature of Seller's or its supplier's representative.

ARTICLE 10. BONDED AND DRAWBACK MARINE FUEL OILS

Marine fuel oils imported and held in bond and drawback marine fuel oils manufactured from imported crude, if available, may be delivered to Buyer at the Contract Ports without payment by Buyer of any customs tariff or duty or other charge thereon, provided, however, Buyer shall reimburse Seller for any charge assessed or drawback denied after delivery by reason of the failure of Buyer or its vessel to qualify therefor or the failure of Buyer to furnish the necessary proof within ninety (90) days from delivery.

ARTICLE 11. CONTINGENCIES

Seller or its supplier shall not be liable for loss, damage or demurrage due to any delay or failure in performance (a) because of compliance with any order or request of any governmental authority, or person purporting to act therefor whether or not such order or request is later determined to be invalid or (b) when the supply of marine fuel oils or any constituent thereof or any facility of production, manufacture, storage, transportation, distribution or delivery contemplated by Seller or its supplier is interrupted, unavailable or inadequate for any cause whatsoever

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(including but not limited to recent hostilities in the Middle East and the closure of the Suez Canal) which is not within the immediate control of Seller or its supplier. Seller or its supplier shall not be required to remove any such cause or replace any affected source of supply or facility if doing so shall involve additional expense or a departure from Seller's or its supplier's normal practices. Seller or its supplier shall not be required to make up any deliveries omitted in accordance with this Article. If Buyer exercises reasonable diligence, it shall not be liable for failure to receive any particular delivery if prevented therefrom by force majeure.

ARTICLE 12. AMENDMENT

This contract may not be amended except in writing, signed by both parties.

ARTICLE 13. NOTICE

Notice to either party shall be mailed to it at its above address, unless otherwise provided, and shall be deemed given at the expiration of normal delivery time.

ARTICLE 14. MISCELLANEOUS

This contract contains the entire agreement between the parties covering the subject matter. There are no other agreements which constitute any part of the consideration for, or any condition to, either party's compliance with its obligations under this contract. Buyer shall not assign this contract. The right of either party to require strict performance shall not be affected by any prior waiver or course of dealing. Seller may terminate this contract upon the breach of any of its terms by Buyer. Any termination shall be without prejudice to accrued rights. All rights and remedies are cumulative and election of one remedy shall not exclude another. In no event shall Seller be liable for prospective profits or special, indirect or consequential damages. Any claims arising under or related to this contract, except claims for quality or quantity, must be made in writing and delivered to Seller or its supplier within ninety (90) days following date of delivery. If this contract is signed by Buyer acting as agent on behalf of a disclosed or undisclosed principal, Buyer shall be liable for performance of all obligations of the principal, including payment. Seller may assign all or any part of this contract, in which event any such assignee, with Seller's consent, shall enjoy and be entitled to exercise against Buyer any and all rights herein conferred upon Seller. Without prejudice to any other rights of Seller, Seller shall be entitled at Seller's option to apply, in satisfaction of any obligation owing hereunder by Buyer, the amount of any monies which may then be or thereafter become owing from Seller to Buyer. The delivery of marine fuel oils hereunder to any vessel shall create a valid maritime lien in favor of Seller or its supplier. This contract, its performance and enforcement (inclusive of maritime liens arising hereunder) shall be governed and determined by the maritime law of the United States of America, regardless of the law of the forum in which any proceeding is instituted relating to this contract or to any vessel to which deliveries are made hereunder.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be executed in their respective corporate names and delivered by their respective authorized officers or representatives thereunto duly authorized as of the day and year first above written.

Mobil Sales and Supply Corporation

By: ..... (Title)

By: ..... (Title)

TRADE AND TRANSPORT INC.

By: ..... (Title)

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C E S A R E D E L G R E C O , called as a witness, having been first duly sworn by a Notary Public of the State of New York, was examined and testified as follows:

EXAMINATION BY MR. DALY:

Q Will you state your name and address for the record, please?

A Cesare Del Greco, RD 3, Box 180, Milford, New Jersey.

Q What is your occupation or profession?

A I'm a Dock Master and a Tugboat Captain.

Q By whom are you presently employed?

A McAlister Brothers, Inc.

Q In what capacity or line of work are you employed by McAlister?

A As a Tug Captain and Docking Master.

Q Are you assigned to any particular tug or as master?

A Yes. Right now?

Q Yes.

A The tug Margaret McAlister.

Q How long have you been employed by McAlister?

A Roughly eight years.

Q That would be employment beginning, perhaps

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A I was assigned by McAlister's dispatcher.

Q Did you have direct communication personally with the McAlister dispatcher?

A No.

Q How did you obtain this information?

A The assignment was relayed to me by the deckhand that was on the watch on the tug McALISTER.

Q What was your position at the time, Captain?

A I was Master of the GRACE McALISTER and also the Docking Pilot on the GRACE McALISTER.

Q Do you hold any marine licenses at present?

A Yes.

Q Did you hold any marine licenses as of the date you were assigned to undock the Trade Daring?

A Yes, I did.

Q Do you recall what licenses you held at that time?

A I'll try and remember because I've gotten so many more since then. I hold, first of all, Able Seaman Certificate document and I believe at that time I held a Master of Freight and Towing Vessels, not over 500 gross tons upon bays, lakes and sounds.

I also held a First-Class Pilot License of Seaman Motor Vessels of any gross tons upon the waters of

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the Hudson River to Beacon, New York, on the waters of the East River, the Stepping Stones, the upper bay, the lower bay, Raritan Bay, Newark Bay, the Staten Island Sound from Perth Amboy to Robbins Reef, the Raritan River to the Arsenal, the Hackensack River to the turning base in the Passaic River to Point No Point.

I believe that covers it.

Q Where was the TRADE DARING when you boarded her?

A She was moored to the ship dock at Hess' terminal at State Street, Perth Amboy. Portside to the dock.

Q Where were you and where was the GRACE McALISTER at the time you received the assignment to undock the TRADE DARING?

A I was asleep in my bunk in the back room in the tug GRACE McALISTER. The tug GRACE McALISTER was tied up inside the ship dock at the same terminal.

Q How long had the GRACE McALISTER been tied up there?

A I have no idea.

Q You indicate that you were off duty or asleep at the time the order came through?

A I was asleep. I was off duty since 6 o'clock that evening and I was awakened at 12:30 that morning by the deckhand.

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Q You say you were awakened at 12:30. How did it come about that you noted the time that you were awakened?

A The deckhand came in and called me. He said it's 12:30 and he gave me the rundown. "You have a ship to sail at 1 o'clock -- and he said -- the ship was supposed to be ready at 1, but I understand there's a bunkering barge outside the ship, so it might be delayed a little bit."

Usually the deckhand calls you and he tells you what time it is and he did say the ship was supposed to go at 1 o'clock.

Q Now, you've stated that you boarded the TRADE DARING. Do you recall at what time you boarded the TRADE DARING?

A Well, I left the pilothouse of the GRACE McALISTER after I picked up my last two items which was my radio and pilot ticket and tow boat bill and it was approximately a quarter to 1 when I left the GRACE McALISTER.

Q You say approximately a quarter to 1. How did it come about and how did you notice the time?

A All the pilothouses of all the boats have a ship's clock on there and the lights were on. So, I could find any ticket and I happened to look at the clock

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when I left just to see I wouldn't be late for the sailing and that I had plenty of time to get there.

It's a force of habit to look at the clock when you leave.

Q How did you get from the GRACE McALISTER to the TRADE DARING?

A Well, I went down to the main deck of the GRACE McALISTER so I could get off the tug and step onto the inside part of the ship dock.

I walked down the ship dock because the GRACE McALISTER was tied up near the moored part of the TRADE DARING,so I had to walk down the ship dock and I noticed the gangway was in and the only way to get aboard was a pilot ladder that was hanging from the portside onto the dock.

Q While you were at the dock, did you meet anyone? Did you see anyone?

A Yes, several men that were just coming down the main part of the ship dock from the terminal, attendants. They were walking down the main part of the dock as I was walking from the forward end of the dock to the pilot ladder.

Q You say you met some terminal attendants?

Is there any way you were able to tell that they

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were terminal attendants?

A Well, they had the Hess work uniforms on with the big patch to the back. It said, "Hess Oil."

Q Did you speak to any of these people?

A Yes, I spoke to one individual who seemed to be the foreman of this party and he asked me if I was going to sail the ship and I said yes, the ship is supposed -- I have orders for 1 o'clock to said the ship, but I understand, I was told that there was a bunkering barge on the outside of the ship and then he said to me "That's not possible. There's not supposed to be bunkering shipping here," and from where he was and I was we couldn't see if the barge was there or not.

So, I said to this man, I'll go up the ladder and let you know for sure. So, he said okay and I proceeded up the pilot ladder.

Q Was the pilot ladder down when you got on the dock?

A Yes, it was all the way down from the ship dock from the railing of the ship.

Q What did you do then? Did you actually board the TRADE DARING?

A That's right. I went directly up the ladder and over the railing and I went directly to the starboard

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directly across the ship towards the starboard side where the manifold was because I could see the manifold on the portside. I walked directly across, between the hatch covers to see if there was a bunkering barge and I looked directly over the rail and at the starboard manifold and I saw the bunkering barge there.

Q Were there any lights on the TRADE DARING in the vicinity of the manifold, if you recall?

A The TRADE DARING main deck was very poorly lit. There was some light coming from the ship dock reflecting onto the main deck, but these were lights on the dock. But, on the ship, it was very poorly lit.

Q Were there any lights on the bunkering barge?

A Yes, several floodlights fairly well illuminating the bunkering barge. Not completely, but fairly well.

Q As I understand it, you crossed from the portside of the TRADE DARING over to the starboard side at the manifold when you looked over the rail at the bunkering bardge?

A That's correct.

Q And you noticed these floodlights. Did you see anybody on the bunkering barge at that time?

A No, I did not.

Q Did you notice whether or not there was any

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ladder between the bunkering barge and the vessel the TRADE DARING?

A I didn't notice any. There could have been, but I didn't notice any, no.

Q How long was it approximately from the time you first stepped to the deck of the TRADE DARING until you got over to the starboard side and looked over at the bunkering barge?

A Ten seconds, 12 seconds, 15 at the most.

Q As Captain of tugs, Master of tugs and as a result of your other experience, both on tankers and on tugs, have you ever observed any bunkering operations? That is bunkering of a sea-going vessel by a bunkering barge?

A Yes, many times.

Q You mentioned that your tug, the GRACE McALISTER, was tied up at the Hess dock.

What experience have you had, that is, on how many prior occasions have you done work in and around the Hess dock before the TRADE DARING incident?

A Since I started working for McAlister, Hess has been one of our accounts. So, since I've been there we've done quite a bit for Hess. We do all their work. We've done it since I've been there.

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Q In the course of your experience and I'm asking you to reflect back over all of your sea experience, approximately how many times have you seen a sea-going vessel bunkered from a bunkering barge?

I recognize that that's a rather difficult question to ask, but I'm only seeking an approximation, Captain.

A I never actually observed a complete operation from start to finish, but I've observed the ending and beginning of it many, many times.

Q You told us what you observed on the bunkering barge after you crossed over the deck of the TRADE DARING and looked over the rail on the starboard side.

Did you hear any activity on the bunkering barge?

A There was at least one engine running at high speed with a lot of exhaust coming up from the barge; at least one engine was revved up running at a high rate of speed.

Q Would you describe it from where you were as loud --

A Very loud.

Q Well, assuming that you had wanted to speak to someone that was next to you at the point where you say

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Q Did you observe any connection or any line or hose or anything else between the TRADE DARING and the bunkering barge?

A There was one hose connected from the barge to the manifold of the TRADE DARING.

Q Can you tell us what you observed with reference to this hose, if anything?

A Well, the hose was -- the boom was swung over towards the TRADE DARING and the hose was supported by several saddles, and the hose was swinging around fore and aft and up and down in the saddles, kind of violently. I guess that's the right word to use.

Q What was the state of the wind, if any, at the time and if you observed, Captain?

A Well, it was a clear night and I believe the wind was northwesterly in that general direction or possibly 15 knots, maybe a little bit more.

Q Where was the bunkering barge located with reference to the TRADE DARING and with respect to the direction of the wind?

A Well, the wind was coming from the shore and the bunkering barge was on the leeside of the ship.

Q You referred to a shore. Were there any installations or buildings or anything of that kind on the

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A Not at that time, no.

I just want to say that my primary reason for going over was to see if the barge was there. That's primarily why I walked over to see if the barge was there, to tell the dockmen where it was or wasn't. I wasn't looking for anyone in particular at that time.

Q Well, what did you do after you made these observations that you just told us about; what did you do next, Captain?

A Well, I turned around in order to walk back to the portside so I could tell the dockman that there was actually a barge bunkering the ship on the starboard side and I got about 15, 20 feet from the starboard railing when these two big balls of fire came out of the skylights near the stack of the stern of the TRADE DARING.

Q Captain, I'll ask you for your approximation. Approximately how much time had elapsed from the time you first boarded the TRADE DARING until you saw the balls of fire coming from the skylights and stack?

A Somewhere between 20 and 30 seconds, a half a minute. Not anything more than that.

Q What did you do then after you saw these balls of fire come out of the skylight?

A For a little bit -- I don't know exactly how long.

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I was kind of startled and wondering what was going on, sort of gaping at this and the next thing I did I had my radio as I walked over to the rail and I was calling the tug to get the mate up and there was several other propelled barges still on the dock that was loading or discharging. I don't know which, to get them out and hollered to the men on the dock that there was a fire.

I went back over and hollered down to the barge to disconnect and get the hell out of there and I then went into the starboard side of the ship to look for the master or someone of some authority in the starboard midship house.

Q Captain, you said you hollered down to the barge. Did you see anyone on the barge at that time?

A There was an individual on the barge at that time, yes.

Q Could you describe him for us?

A No, I can't because I didn't waste my time to look at him too close. I was primarily interested in telling him to get out of there. I don't know if he heard me because the engine was still going. I just went over and hollered down and hoped he heard me.

Q Do you recall how he was dressed?

A Work clothes, general work clothes; dungarees.

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A I hollered is the captain around and several of these individuals turned around and I noticed the one was a Sandy Hook Pilot, Walter Nieber.

Q What did you do then?

A I hollered down is the captain around and Walter said, pointing to the individual or indicated to me the individual next to him was the master of the ship.

Q What did you do or what did you observe after that?

A Well, I immediately went down to the main deck where they were and I said to the captain, can you fight this fire and at the same time there was a lot of people, I assumed ship personnel, scurrying all over the deck and at that time the captain didn't speak good English and he pointed to the compartment under the midship house which is the storage compartment and an individual walked out of that compartment with an old-type fire extinguisher strapped to his back with a little hose and I said something to him "Is that all you have?", and he started pointing back and he said a few things that indicated to me and I realized right away what he was trying to say, that his fire fighting equipment was in the engine room and you can't there, so then I understood there was no other way to fight the fire outside of this character with

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this little back-pack extinguisher, which was ridiculous even to consider.

Q Now, what did you do then, Captain?

A I said, "Well, we have to get the ship out of here" and meanwhile we were right on the portside near the manifold on the portside and I noticed the dockmen were starting to cut the lines already with axes and different kinds of equipment and I saw a couple of dock people coming down the main ramp of the dock with some kind of a red cylinder on wheels and they were pulling it by hand and there were four or five other guys just chopping the lines, starting to chop the lines.

I saw people who I thought were, I assumed were ship's personnel going down that pilot ladder as the lines were being cut.

Q You mentioned red cylinders. What were these red cylinders, if you know?

A They were possibly CO_2 cylinders, maybe in a pack of three. It wasn't a really big heavy piece of equipment, like I said. Two men were wheeling it down the main part of the dock.

Q During any of this time, did you have any communication with your tug?

A Right. While this was going on I observed the

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bunkering operations start and finish and he has not been qualified as a bunkering expert, so with that objection on the record --

A Yes, usually there is a man on both ends. One on the barge and one on the ship, or one on the dock and one one the barge, or one on the barge and one on the ship.

Q Now, you've been involved in tugboat operations in New York harbor for many years, have you not?

A Yes, sir.

Q How many bunkering barges during the course of that particular lifespan of marine employment have you taken alongside ships?

A Well, we have one we do steadily. That's a little gulf barge. We have some of our own barges we use occasionally, at least 100 times.

Q Now, when you boarded the TRADE DARING, was there any member of the crew standing by the manifold of that ship?

A No, sir.

Q Can you state whether or not there was anybody on the deck of the bunkering barge?

A No. I didn't see anyone on the deck.

Q That didn't mean however that there could have

been somebody there?

A There could have been somebody there. I just didn't see anyone.

Q Do you know whether the valve on the ship's manifold was open or closed?

A No, I don't know.

Q Do you know whether the pumps on the bunkering barge were operating?

A No.

Q Do you know whether any oil was coming through the line which you observed?

A No, it's a solid line. It's not transparent. I don't know if there was any oil going through it or not.

Q Do you know what kind of engine was aboard the bunkering barge that was in operation?

A No. I just know --

Q An engine?

A An engine or maybe two engines going because the noise they make when they run, and I know they were running full or near full because of the tremendous amount of noise, and the tremendous amount of exhaust smoke coming up from the bunkering barge.

Q But, what engine aboard that bunkering barge you have no idea of?

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Del Greco 37

A I couldn't swear to it, no.

Q Now, when you first met with Mr. Tublin and discussed this matter with him a couple of months after the incident took place, did you at that time sign any statement?

A At that time?

Q Yes.

A I don't believe so.

Q Did Mr. Tublin show you the notes that he took?

A When?

Q At the first time you met with him.

A I don't recall whether after them he showed them to be or not. As I was talking to him he was writing everything down and I don't recall whether he showed them to me after or not. No, I can't say.

Q The notes I'm talking about, so it will be clear, is the notes contained in Defendants' A; is that correct?

A Right.

Q In any event, after the first meeting that you had with Mr. Tublin, you didn't sign any statement?

A No.

Q Did you sign the notes at that time?

A No.

Q Then, how long thereafter was it that you were

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Del Greco 38

again shown the notes, that is Defendants' Exhibit A?

A Six months ago, roughly. I don't know exactly when, five or four or six months ago.

Q Say two and a half years after the collision occurred?

A Right.

Q And at that time were you asked to sign the notes?

A I was asked to read them and then sign them.

Q So that you were asked to sign the notes approximately two and a half years after the incident occurred?

A Right.

Q Had facts sort of dulled in your mind?

A Naturally after two and a half years they would.

Q Now, when did you first speak to Mr. McAlister?

A Well, that day of the fire which was after midnight. That day in the daytime, sometime when they came into that office that day. He requested that I call him as soon as possible and over the phone he asked me what happened and give testimony, information of what happened.

Q Is Mr. McAlister an officer of McAlister or employed by him?

A Yes, I guess they own the business. I assume he

DEFENDANTS' EXHIBIT 94

has something to do with him. I don't know what his official capacity is or title is.

Q You mentioned that when you spoke to the Captain you asked him what type of fire-fighting equipment that he had; is that correct?

A Yes, not in those exact words. I said to him "Do you have anything we can fight the fire?"

Q And again, what did he say?

A He pointed to the midship house on the main deck and there was this individual coming out with this back-pack, looking like a couple of cans on the back with a small hose, an old type of fire extinguisher and I said something to him to the effect do you have anything else and he started pointing at the fire and jabbering a few words in English and I took what he said that what he had to fight the fire was down in the midship pumps and he pointed down there.

Q Down there?

A In the engine room and I took it to mean that I understood that the pumps were down there and the place was on fire and there was no way to get to that stuff.

Q While you were on board the ship, did you ever hear of any emergency signals such as fire signal or abandon ship signals sounded by the vessel?

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Del Greco 40

A No, I did not.

Q What did the crew do when the fire started?

A They were running all over the place going down the ladder, down that pilot ladder. The few crew members that I saw on the main deck, some stayed on the ship. Exactly how many, I don't know. I never took count, but a rough estimation was a dozen when we anchored the ship.

Q Would you state that there was confusion rampant aboard that ship?

A Yes, there was.

Q Now, when you first came aboard, was there any evidence of any anxiety or yelling or screaming insofar as the vessel was concerned?

A No, the two individuals were by the pilot ladder along there just gaping at the space. I assumed they were seamen and just gaping at the space as calm as can be. I didn't see no one else around.

MR. WAESCHE: I have nothing further.

BY MR. DALY:

Q Captain, you described the lights on the bunkering barge, I believe as floodlights?

A Yes, some type of floodlights or spotlights.

Q And if anyone had been standing in the area illuminated by those lights you could have seen them?

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Del Greco 41

A If they were standing in the area that was directly illuminated by the lights, I would have seen them. If they were hiding behind the tanker or in the house or in a dark area, I wouldn't have seen them, no.

Q Now, is this your writing and signature on the first page in the left-hand margin of Defendants' Exhibit A for identification?

A That's my signature but that's not my writing in that paragraph.

Q Well, did you read the material that appears in that left-hand margin?

A I read everything I sign.

Q Well, as you sit here today and having reviewed the statement you gave to Mr. McAlister and having subjected yourself to cross-examination by Mr. Waesche, do you believe that everything you saw on this statement, and I think you said you read everything that you sign, that this statement marked Defendants' Exhibit A, do you believe that to be correct?

A Yes.

Q While you were aboard the TRADE DARING, did you see the chief engineer?

A No, I may have run into him, but I couldn't know who he was.

DEFENDANTS' EXHIBIT 94
Del Greco

A The Captain was with me all the time. Of course, they don't wear uniforms to distinguish who they are.

Q Did you recognize any members of the ship's steward compartment on the ship?

A Yes, the one man that was left in the stern and we tugged the ship out of there and they got him on the tug on the GRACE McALISTER and we left the ship.

I went on my tug with the Captain when he wanted to use the ship's telephone to call the owner or agent. I forget which and he said he identified this individual as the messman.

Q You mentioned some problem in connection with letting the lines on the TRADE DARING as they tried to get away from the dock. What was that problem?

A The problem was that the lines were attached to the SOUTH DOLPHIN from the SOUTH DOLPHIN to the stern of the ship and there was no catwalk from the main dock to the SOUTH DOLPHIN, so the shore people could not go over and cut those line.

There was no one on the stern of the TRADE DARING to let him go, so the tug had to go around to that DOLPHIN, the stern of the ship and put -- I don't know whether he put one or two of them, but he did tell me he had some people there cutting those lines.

DEFENDANTS' EXHIBIT 96.

DIRECT TESTIMONY OF CAPTAIN WALTER M. MACLEAN

1. Please state your name.

A. Captain Walter M. Maclean

2. By whom are you presently employed and in what capacity?

A. I am the Head of the Department of Engineering at the United States Merchant Marine Academy at Kings Point, New York.

The resume of Captain Maclean (Trial Exhibit 96A) received in evidence.

3. Captain, at my request, did you make a study and analysis of the save-oil and vent piping system which existed in the engine room of the M/V TRADE DARING on March 18, 1971?

A. Yes, I did.

4. What documents did you use to make your study and analysis?

A. I reviewed the testimony given by the crew of the vessel, the survey report of Captain Henry C. Halboth, the diagram of the system identified by Captain Halboth as representing the system that he found on his survey, and various exhibits identified by the crew at their depositions. I also reviewed the Rules governing the standards of construction promulgated by the American Bureau of Shipping and Germanischer Lloyd,

the societies under whose rules the vessel was built and supervised, and United States Coast Guard Rules and Regulations for Tank Vessels, United States Coast Guard Marine Engineering Regulations, the 1971 Lloyd's Register of Shipping Rules and Regulations for the Construction and Classification of Steel Ships, the 1971 Bureau Veritas Rules and Regulations for the Construction and Classification of Steel Vessels, and the 1971 Nippon Kaiji Kyokai Rules and Regulatons for Construction and Classification of Ships. (Testimony of crew, Trial Exhibits 45, 46. 47. 48 and 49; Rules and Regulations, Trial Exhibits 63 through 69 and 89).

5. Based on your study and analysis, do you have an opinion as to whether the save-oil and vent piping system existing in the engine room on board the M/V TRADE DARING on March 18, 1971 met the standards of accepted marine engineering practices of the industry?

A. Yes, I do.

6. What is that opinion?

A. It is my opinion that the save-oil system employed in the fuel oil tank venting and save-oil installation

of the M/V TRADE DARING did not meet with accepted marine engineering practices in the industry.

7. Will you please tell the Court on what you base your opinion?

A. I base my opinion upon a study of the Rules for construction of the classification societies under which the vessel was built and classed and governmental regulations; my experience as a marine engineer, and the general requirements in the industry that must be given to retain the integrity of fuel oil filling, venting and draining systems for safe operation of marine engineering plants.

8. What are the general requirements which must be satisfied for good marine engineering practice to retain the integrity of fuel oil filling, venting and draining systems for safe operation of marine engineering plants?

A. In general, no fuel oil tank vent, overflow or drain line should be so installed or operated such that flammable vapors or liquids may be discharged in a space which contains a source of ignition. This basic principle underlies considerations leading to the specific regulations and construction rules of the industry.

DEFENDANTS' EXHIBIT 96

9. Where does one find these rules and regulations for construction?

A. These may be found in the written rules for construction published by the various classification societies of the world and in the regulations issued by governments for the regulation of vessels built and operated under their registry. Examples would be the rules of the American Bureau of Shipping, Lloyd's Register, Germanischer Lloyd, Det Norske Veritas, Bureau Veritas, Registrano Italiano, Nippon Kaiji Kyokai, etc., United States Coast Guard Regulations in the United States and similar regulations issued by governmental agencies of other maritime nations, for example the Ministry of Transport in the United Kingdom.

10. Would you tell the Court why in your opinion you believe that the fuel save-oil and vent piping system on the M/V TRADE DARING did not meet the general safety requirements and standard practices of the industry?

A. The general requirements and standards were not met in my opinion because the save-oil system allowed the overflow discharge of tanks into the engine room spaces and the venting of tanks into the engine room spaces without control in such a

manner as to cause a hazardous condition if such fluid discharges took place. This was true with respect to the overflows from the two day tanks as well as the save-oil collection basins associated with the central oil filters and the port light oil day tank.

11. Are the rules for the construction of vessels so written as to satisfy further intent for safe installation?

A. Yes, they are.

12. In what manner are provisions made in this respect?

A. The rules are written in a fashion such that installations shall not allow the discharge of flammable vapors or liquids in a location where they will be unnecessarily heated or subjected to sources of ignition, such as over boilers or other hot surfaces.

13. Does the installation on board the M/V TRADE DARING violate this intent?

A. Yes, it does.

14. How?

A. The save-oil collection basin around the central oil filters is located above the diesel generator

and thereby allows any liquid which could overflow from the basin to fall upon the diesel generator and thereby be subjected to a source of ignition, which is exactly what occurred in this casualty.

15. In your study of the classification society rules issued by the American Bureau of Shipping and/or Germanischer Lloyd, are there specific rules which were violated by the save-oil installation on board the M/V TRADE DARING?

A. Yes, there are.

16. What rules are those?

A. The 1953 Germanischer Lloyd Rules for Classification and Construction of Machinery of Seagoing Ships, the Rules under which the M/V TRADE DARING was built state, on page 172:

"Chapter 9 - Section 21

Storage of Fuel

* * *

2. Installation of Fuel Tanks

Fuel storage tanks and bunkers are to be so installed and equipped that they are not unduly heated by the engine and its piping as well as by the auxiliary boilers or heaters and that fuel or inflammable gases cannot discharge into the engine or boiler room."
(Emphasis added)

DEFENDANTS' EXHIBIT 96

17. How was this rule violated?

A. It is clear that the save-oil system of the M/V TRADE DARING violates this basic rule of construction. Oil pressed up from the double bottom overflow tanks will backflow into the overflow piping, the vent piping and the save-oil piping. Since the save-oil piping, which is connected to the vent pipeline, leads into open drains in open basins which are located at a point lower than the overflow or vent piping outlets, the oil will naturally find egress there and if of sufficient volume overflow the basins and cascade directly into the engine room spaces and machinery, as occurred in this case.

In addition, even if there were no overflow of oil, the system still violates the classificaton rules since it permits the escape of inflammable vapors through the same open basins. Any time the double bottom receives oil, the volume of inflammable gas filling that compartment would be displaced by the rising level of oil into the vent piping and the save-oil piping, and thence into the engine room.

DEFENDANTS' EXHIBIT 96

18. **Are there any other rules of Germanischer Lloyd which were violated?**

A. Yes, there are. The Germanischer Lloyd Rules also provide in Chapter 7 Section 2 subsection 5, on page 122:

"5. Air and Overflow Pipes

Oil fuel bunkers and other oil tanks are to be fitted with air pipes which are to be conducted separately to the open, e.g. to the funnel or mast. In the case of equal grades of oil they may be joined. Their ends are to be arranged and fitted that the oil vapour can neither enter service or accommodation rooms thus having dangerous effects nor can water flow into the pipes. It is also to be ensured that the mesh wire sieves for flame protection cannot be closed by paint."

This rule was violated because the vent pipe was not "conducted separately to the open." It was joined with the piping of the save-oil system. Ignitable gases and fuels were thereby rerouted to the save-oil system and were discharged into the engine room through the open save-oil basins, before they could be vented to the open decks where the possibility of ignition is remote.

19. **Are there any other rules of Germanischer Lloyd which were vidated?**

A. **It is further provided on page 123 of the Rules of Germanischer Lloyd in Chapter 7:**

DEFENDANTS' EXHIBIT 96

> "Bunkers and tanks are, moreover, to be fitted with one overflow pipe each to avoid any unduly high pressure occurring by overcharge or due to heat expansion of the oil. These overflow pipes may be conducted either into an overflow tank especially installed for this purpose, or if the port authorities permit, they may be conducted outboard at a permissable height."

The overflow pipes of the port and starboard diesel oil day tanks were in violation of this section since they were modified in such manner as to allow an overflow to be discharged directly into the save-oil basins fronting the bases of these tanks. Such an arrangement would permit both inflammable gases and fuel oil to be discharged directly into the atmosphere of the engine room. (The schematic diagram, Trial Exhibit 62, can be used to illustrate how this would happen).

20. Were any rules of the American Bureau of Shipping violated?

A. There was a violation of the 1954 American Bureau of Shipping Rules for Building and Classing Steel Vessels, these were also the rules under which the M/V TRADE DARING was built.

DEFENDANTS' EXHIBIT 96

21. How was this rule violated?

A. The save-oil piping system on board the M/V TRADE DARING violates this rule since the intent of this rule is that a fuel oil tank should vent gases and fuel oil in a closed system through the engine room, up and out to the open air on deck.

The vent piping system was compromised on the M/V TRADE DARING because inflammable gases and fuel were able to vent into the engine room. The reason for this is because the vent pipeline was directly connected up with the save-oil pipeline. Any gases or oil moving through the vent line would branch off through the save-oil piping and find egress through the open drains and open basins before the gases or oil had an opportunity to vent to the atmosphere.

It was definitely not a closed system and so violates the rule.

22. How does the 1971 American Bureau of Shipping Rule compare with the 1954 American Bureau of Shipping Rule for "Vents of Ballast and Other Oil Tanks"?

A. They are essentially identical. It reads, on page 433:

DEFENDANTS' EXHIBIT 96

"36.39.4 Ballast and Other Oil Tanks

Vents of ballast and other oil tanks are to extend above the weather deck in locations where the possibility of ignition of gases issuing from the vent outlets is remote. * * *"

23. Is there any other rule of the American Bureau of Shipping, which in your opinion, was violated by the installation of the save-oil system of piping on board the M/V TRADE DARING?

A. Yes, there is. In the 1954 Rules, Section 34 entitled "Internal Combustion Engines", at page 138:

"(19) Oil Transfer and Filling System

(a) The piping arrangements for the carriage of fuel oil are to be in accordance with the requirements of Section 36 in addition to the following requirements.

(b) The fuel oil overflows, drains from fuel and lubricating oil tanks and from drip pans of oil pumps and tanks are to be led to a closed cofferdam or drain tank fitted with air and sounding pipes and an independent suction from the fuel oil transfer pumps. Where a gutter bar is fitted to intercept seepage from deep oil tanks the well thus formed should be drained into the oil drain tank or cofferdam by way of drain valves, or have a suction from the fuel transfer pump. Filling lines shall terminate at the weather deck and tanks are to be vented to the open atmosphere."
(Emphasis added)

DEFENDANTS' EXHIBIT 96

24. In your opinion, how was this rule violated by the save-oil system?

A. Once again, this rule was violated by the save-oil system. The tanks which were designed to receive drippings were to be fitted with vents to the open atmosphere. The intent of this rule is that inflammable gases or fuel should be vented to the open and not find its way into the engine room where possibility of ignition exists.

The save-oil system permitted inflammable gases and fuel to find its way into the engine room, before it had an opportunity to vent to atmosphere. It was not a closed system as the rule required it to be and so the rule was violated.

A similarly worded rule is found in the 1971 American Bureau of Shipping Rules, on page 331, i.e. "34.35.2 Oil Tanks and Drains."

25. Are there any other governmental regulations that you are aware of which set a standard of safety in the construction of vessels?

A. Yes. The U.S. Coast Guard Marine Engineering Regulations 56.50-85 Tank Vent Piping, subsection 4, reads as follows:

DEFENDANTS' EXHIBIT 96

* * * *

"Vents from ballast and fuel oil tanks shall extend above the weather deck and the vents from oil tanks shall terminate not less than 3 feet from any opening into living quarters." (Trial Exhibit 66)

26. What in your opinion is the intent or purpose of this Coast Guard regulation?

A. In my opinion, the purpose of this regulation is essentially the same as the rules of the American Bureau of Shipping and of the Germanischer Lloyd and of other classification societies throughout the world, that the venting system of fuel oil tanks be a completely closed one which insures that inflammable gases or liquids cannot escape into engine room or other spaces where sources of ignition may exist.

27. What rules of other classification societies did you review which support your opinion?

A. The 1971 Lloyd's Register of Shipping Rules and Regulations for the Construction and Classification of Steel Ships; the 1971 Bureau Veritas Rules and Regulations for the Construction and Classification of Steel Vessels, and the 1971 Nippon Kaiji Kyokai Rules and Regulations for Construction and Classification of Ships. (Trial Exhibits 67, 68, 69)

DEFENDANTS' EXHIBIT 96

28. During your seagoing experience when you sailed as an engineer aboard merchant vessels, did your duties involve bunkering of vessels?

A. Yes.

29. What experience have you had in bunkering vessels?

A. I have been a member of or in charge of a fueling party on numerous occasions during the 9 year period of my seagoing experience. During that period I have engaged in bunkering operations in various ports throughout the world including: San Francisco, San Pedro, New York, Honolulu, Yokohama, Hong Kong, Singapore, Bombay, Karachi, Aden and Genoa. The bunkering has been at various times of the year both by barge as well as through pierside pipelines from tank farms.

30. You have read the testimony of the third and second engineers of the M/V TRADE DARING?

A. Yes, I have.

31. Do you have an opinion as to whether a prudent engineer would have bunkered a vessel in the manner that the personnel aboard the M/V TRADE DARING did on March 17 and 18, 1971?

A. Yes, I have an opinion.

DEFENDANTS' EXHIBIT 96

32. What is your opinion?

A. A prudent engineer would not bunker a vessel in this manner.

33. What is your reasoning?

A. My reasoning in stating this is based upon the following factors:

1. There was no one from the crew permanently stationed at the bunkering manifold on deck.
2. There was no one permanently stationed in the engine room watching the various tanks.
3. There was no system of intercommunication between the bunkering manifold on deck and the engine room.
4. There was no agreed upon procedure for vessel shut off against the delivery barge in case of a need for immediately halting of the bunkering operation.
5. The watch officer should not have had multiple duties, i.e. there should have been an officer on watch in the engine room and an officer in charge of the bunkering operation.

DEFENDANTS' EXHIBIT 96

34. Please explain why it would have been prudent bunkering practice to have someone from the crew posted at the bunkering manifold on deck.

A. It is important that a member of the ship's bunkering party be ready at all times to give an order to stop bunkering operations to the delivery barge or shore installation attendant or to be able to shut off delivery at the deck manifold or fueling station. This is to prevent the possibility of on board spillage or overflow of the bunker spaces.

35. Please explain why it would have been prudent bunkering practice to have someone from the crew posted in engine room or at the various tanks.

A. It is important that the state of filling of all tanks be continuously monitored in order to insure that the uneven rate of tank filling does not result in the too rapid filling and overflow of tanks which thus reduces the margin of safety against a spill that the overflow system provides.

DEFENDANTS' EXHIBIT 96

36. Please explain why it would have been prudent bunkering practice to have intercommunication between the bunkering manifold on deck and the engine room.

A. Since, in topping off operations it is easy to cause bubbles of oil and air to issue from tank vents and overflows, thus possibly causing spills, it is necessary that communication be possible at all times between those that monitor the filling operations and the attendant at the fueling station on deck. This is necessary in order to insure prompt transmission to the delivery attendant on the barge or shore installation of requests for reduction or stoppage of the bunkering rate. Often times the 15 to 30 seconds or more which is necessary for a man to come from below decks to the fueling station constitutes too long a time and spills result.

37. Why is it not prudent practice for the watch engineer to have multiple duties, including bunkering, while on watch?

A. It is not possible to pay close attention to both bunkering and engine room watch operations at the same time. Thus in case of an unusual event, one responsibility is of necessity, neglected for the other. In such a case the unattended responsibility may readily be a source of failure or other accident.

DEFENDANTS' EXHIBIT 96

38. **What is the first action that a fueling party member attendant at the fueling station should take upon completion of bunkering?**

A. **The attendant at the fueling station should immediately close the manifold valve, thereby isolating the ship's fueling system from the delivery system. The third engineer failed in his duty to do that in this case.**

39. **Assuming that the third engineer of the M/V TRADE DARING did see oil overflowing from the side tanks through the overflow line sight glasses while he was on the lower engine room platform, what would a prudent engineer have done under those circumstances?**

A. A prudent engineer would have immediately taken steps to cut off the flow of any incoming oil. If the third engineer did not, as his testimony reveals, shut off the valve on the main deck when the bunkering was completed he should have, at the very least, shut off the main valve located in the engine room on the third or upper level. A receiving vessel has the ultimate responsibility for a spill, because it has the ultimate capability to stop the flow of bunkers.

DEFENDANTS' EXHIBIT 99.

DIRECT TESTIMONY OF CAPTAIN PHILLIP NEAL

1. Please state your name?

A. Phillip Neal

2. By whom are you presently employed and in what capacity?

A. Mobil Oil Corporation - Marine Safety Advisor (Resume of Captain Neal, Trial Exhibit 99A received in evidence)

3. Captain, at the request of Mobil Oil Corporation, did you go on board the M/V TRADE DARING in April of 1971 to conduct a survey of the after end of the vessel?

A. Yes.

4. What did your survey consist of?

A. I surveyed the accommodation areas of the after house. I also surveyed the engine room and boiler room with related fire fighting equipment; and together with surveyor Captain Halboth, traced out the various fuel and venting lines in the engine room to determine the cause of the fire.

DEFENDANTS' EXHIBIT 99

5. What documents or information did you examine?

A. I have examined blueprints of the M/V TRADE DARING numbered 3920012, 3920013 and 3920014, prepared by shipbuilders Kieler Howaldtswerke A-G and the general arrangement plan. (Trial Exhibits 37, 38, 39, and 98)

6. Did you examine any documents or information concerning the fire which occurred on board the vessel on March 18, 1971?

A. Yes, I have.

7. What documents or information did you examine?

A. I have examined the depositions of the third engineer, second engineer, Chief Engineer, second class motorman, and the Master of the M/V TRADE DARING. (Trial Exhibits 45, 46, 47, 48, 49)

8. Based on your survey and your examination and analysis of blueprints and testimony of the various crew members of the M/V TRADE DARING, do you have an opinion as to whether the fire protection equipment on board the M/V TRADE DARING on March 18, 1971 met the standards of accepted marine fire protection practices in the industry?

A. Yes, I do.

DEFENDANTS' EXHIBIT 99

9. What is that opinion?

A. My opinion is that the fire protection equipment and its installation on board the M/V TRADE DARING on March 18, 1971 did not meet with accepted marine fire protection practices in the industry.

10. Would you please tell the court on what you base your opinion.

A. I base my opinion on my marine fire fighting experience; the applicable rules of classification societies which set minimum standards for installation of fire protection equipment and the general requirements in the industry that must be met in order to insure that the vessel has on board certain minimum fire protection equipment.

11. In what way did the fire protection equipment on board the M/V TRADE DARING fail to meet the standards accepted in the industry?

A. Firstly, and most important, the emergency generator diesel engine and foam system pump controls, were located too close to the hazards which they were supposed to protect.

DEFENDANTS' EXHIBIT 99

The testimony of the second engineer (Trial Exhibit 47, p. 37) states that the emergency generator room which housed these controls, was located between the pump room and the engine room, near the accommodation area. As a consequence, although the second engineer on duty apparently attempted to go to the foam system station at the emergency generator room after the fire broke out, that station was cut off almost immediately by the outbreak of the fire.

The 1960 Safety of Life at Sea Convention and the Rules of various classification societies all state that the emergency source of power aboard ship should be so located so as to insure its functioning in the event of fire or other casualty causing failure to the main electrical installation. (See Trial Exhibits 97, 102)

In addition, the foam fire fighting station also being located in the emergency generator room, was unable to be used because it too was cut off from use by the fire. Once again, the 1960 SOLAS Convention and Rules of the various classification societies require that

so as not to be readily cut off by the outbreak of fire. In this case the system was cut off by the fire because of its close proximity to the space it was designed to protect.

The fact that the emergency diesel was not capable of starting automatically when the main generator in the engine room failed, was still another instance in which the vessel did not meet safety standards accepted in the industry which require a vessel's emergency source of power be activated if the main source of power should fail. The consequence of such an arrangement is obvious since the engine room and the accommodation areas of the after house were plunged into darkness just minutes after the fire began. The engine room personnel were unable to get to or to use the foam system located in the emergency generator room. The emergency source of power, when cut off, also incapacitated the other fire pumps throughout the vessel.

DEFENDANTS' EXHIBIT 99

Secondly, the deposition of the Chief Engineer (p. 39), indicates that, at the time of the fire, only 15 drums of foam compound was immediately available for use in the engine room foam fire fighting system. This amount would provide only 1,600 sq. ft. of foam, 6" in depth, whereas the bilge area, below the engine room floor plates was about 4,000 sq. ft.

The 1960 Safety of Life at Sea Convention and Rules of various classification societies all require that a foam system be able to discharge a quantity of foam sufficient to cover to a depth of 6" (or 150 mm), the largest area over which fuel oil is liable to spread. Whatever the capacity of this particular system, it was rendered ineffective by reason of the vessel simply not having sufficient foam compound available to make it effective.

Thirdly, the 4" fire main appears to have been inadequate under the requirements of the 1960 Safety of Life at Sea Convention and the Rules of various classification societies. (Trial Exhibits 97, 102)

DEFENDANTS' EXHIBIT 99

In addition to the foregoing deficiencies, the vessel violated certain additional fire safety standards found in the U.S. Coast Guard Rules and Regulations for Tank Vessels. (Trial Exhibit 89) In my opinion, these rules and regulations constitute reasonable safety standards.

The United States Coast Guard Rules and Regulations for Tank Vessels (Section 34.05-5(7),(Trial Exhibit 89), provide that, for tankers propelled by an internal combustion engine, only a carbon dioxide fire extinguishing system should be installed. Diesel engine room fires are classically three dimensional fires, and this was of course the type of fire on board the M/V TRADE DARING. Foam systems are significantly effective only against two dimensional fires, i.e. a fire which spreads only horizontally on one plane or surface. For example, if a fire started in the engine room, bilges, and spread and burned only on the floor of the engine room, then a foam blanket would be capable of smothering such a fire.

A three dimensional fire is of course a fire which spreads vertically as well as horizontally throughout the engine room space, and such a fire is the type which would occur

in the engine room space of a diesel powered vessel such as the TRADE DARING, for the reason that such an engine and associated engine room machinery contains a number of highly pressurized lines carrying oil at various levels of the engine room.

Carbon dioxide systems can also be put into operation much more quickly, and in addition they are self-energizing. The foam system on the M/V TRADE DARING not only required the time involved in starting a pump, opening sea valves, selecting a manifold and opening drums of foam concentrate and pouring them one by one into the system, but also depended on the emergency generator as a source of energy which, as stated in the deposition of second engineer (p. 17) failed in this case.

12. Based on your examination of the depositions of the crew (Trial Exhibit 45 thru 49), have you have an opinion regarding the carrying out of fire fighting operations by personnel on board the TRADE DARING?

A. I have.

DEFENDANTS' EXHIBIT 99

13. What is that opinion?

A. In general, it can be said that virtually no effective efforts were made by any personnel to fight the fire.

The actions of the crew taken to prevent the spread of the fire and to extinguish it were completely unsatisfactory. Their reactions demonstrated the result of a lack of training during fire drills, which should be held once a week, and according to the deposition of the third engineer (p. 74), only one such drill had been held since the vessel had departed from Europe. The Bridge log of the M/V TRADE DARING however, indicates that a fire and boat drill was held only once, on January 10, 1971, and never again thereafter (Trial Exhibit 103). The Liberian Maritime Regulations require fire and boat drills be held at least once every week and that such drills be entered in the vessel's log. This accounts for the crew's reaction and lack of familiarity with the fire extinguishing system on board.

DEFENDANTS' EXHIBIT 99

On being driven from the engine room, Bafaloukos or Spetsiotis should have started the emergency fire pump while Arsenikos went to warn the rest of the crew. The fire alarm should have been sounded to bring the crew to their fire fighting stations. The sky lights of course should have been closed; but the men should have first taken steps to control and stop the flow of oil, and secondly to start counter measures to combat the fire and then once those acts were taken they should have then proceeded to close the skylights.

None of the crew members whose depositions I have read had a clear idea of how the foam extinguishing system worked, nor did they seem to know much about the operation of the emergency diesel engine.

None of the depositions indicate that anyone tried to, or considered as a possibility, pressurizing the ship's fire main through the ship/shore universal fire connector.

As noted, above, while the foam bilge protection system was inadequate for a three dimensional fire, and even though there was an insufficient quantity of foam available, nevertheless, if the

crew had activated this system they could have perhaps restricted the spread of the fire and minimized the damage. They could have fought the fire thus restricted if they had means to handle water spray from the emergency fire pump.

Finally, the rapid abandonment of the vessel by most of the crew, among other things, foreclosed other possibilities of restricting the spread of the fire.

The consequence of the majority of the crew immediately abandoning the vessel was that the shore based fire fighters were then left completely ignorant of the layout of the vessel, the source of the fire, and most important, the number of crew members left on board. Furthermore, as the vessel was being towed an opportunity may have presented itself to start the emergency foam system, which of course was not possible without the help of the crew members on board.

DEFENDANTS' EXHIBIT 100.

U. S. DEPARTMENT OF COMMERCE

FORM (REVIS PRESC D.A.O. BY

Washington, June 6, 19 75

I BY CERTIFY that the annexed is a true ~~copy of~~ statement of the surface wa temperature observed at The Battery, New York City, Ne rk

on Offices of the National Oceanic and Atmospheric Administration, National Ocean Survey.

Carl W. Fisher

Chief, Oceanographic Division
(Official title)

E CERTIFY that Carl W. Fisher

gn foregoing certificate, is now, and was at the time of signing, Chief, Oceanographic Division

at f h and credit should be given his certificate as such.

IN WITNESS WHEREOF, I have hereunto subscribed my name, and caused the seal of the Department of Commerce to be affixed this 6th *day of* June, *one thousand nine hundred and* seventy-five

For the SECRETARY OF COMMERCE:

James J. O'Neil

Certifying Officer

-768-972/1178 REG. #5

DEFENDANTS' EXHIBIT 100

Statement prepared by the National Oceanic and Atmospheric Administration, National Ocean Survey for Bigham, Englar, Jones and Houston, 99 John Street, New York, New York.

The National Ocean Survey has records of observed surface water temperatures at The Battery, New York City, New York, for the dates of March 16, 17, and 18, 1971. The following table presents these observations at the stated times.

Date	Time (EST)	Temperature (^{o}F)
March 16, 1971	0800	40^{o}
March 17, 1971	0745	40^{o}
March 18, 1971	0750	39^{o}

June 13, 1975

DEFENDANTS' EXHIBIT 103.

T R A N S L A T I O N

DECK LOG-BOOK

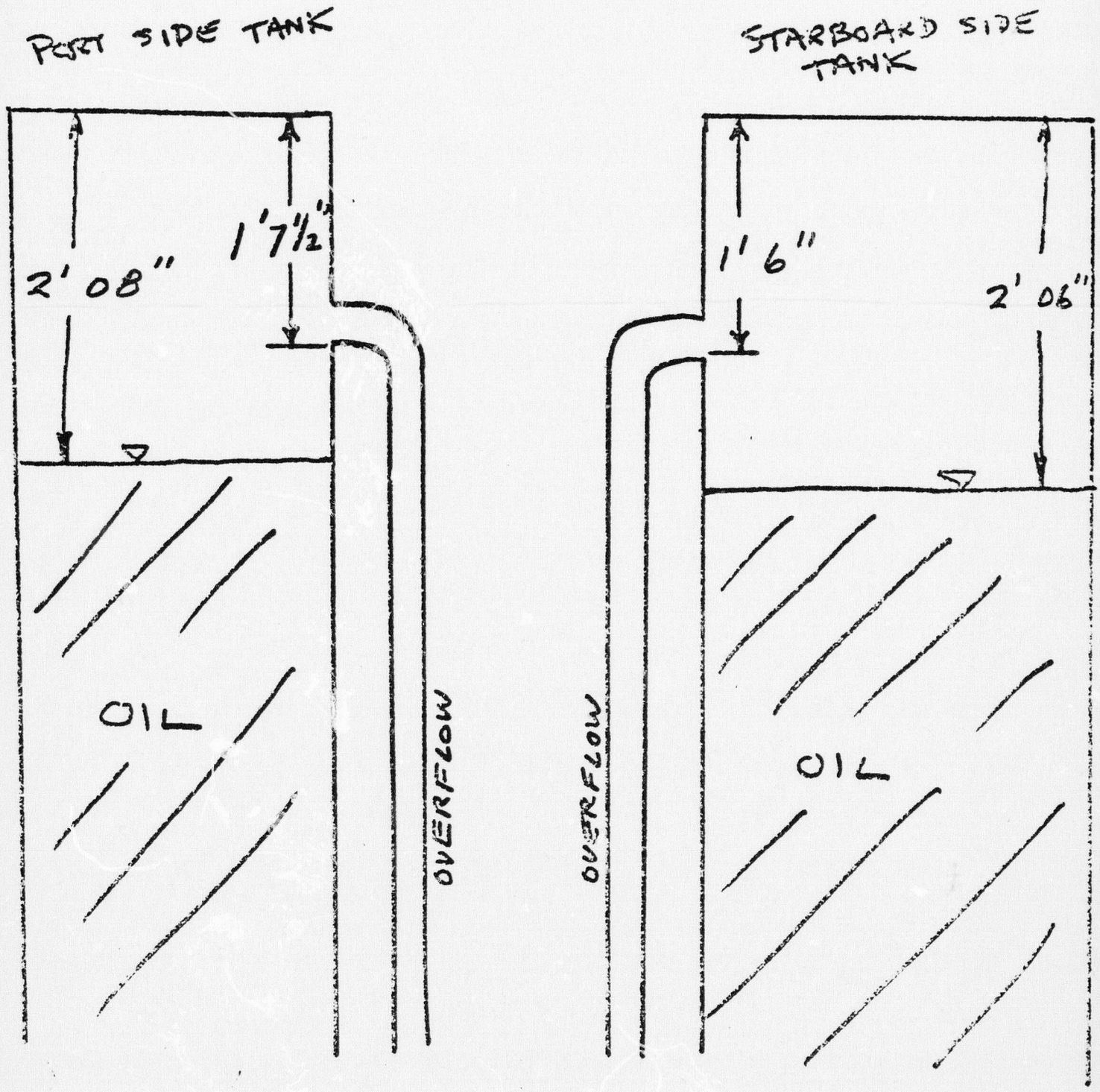
p. 313

POINTE-A-PIERRE -LYSEKIL

January 10, 1971

1500	Boat and fire drills carried out
1600	Completed drills.

DEFENDANTS' EXHIBIT 105.



June 13, 1975

DEFENDANTS' EXHIBIT 103.

T R A N S L A T I O N

DECK LOG-BOOK

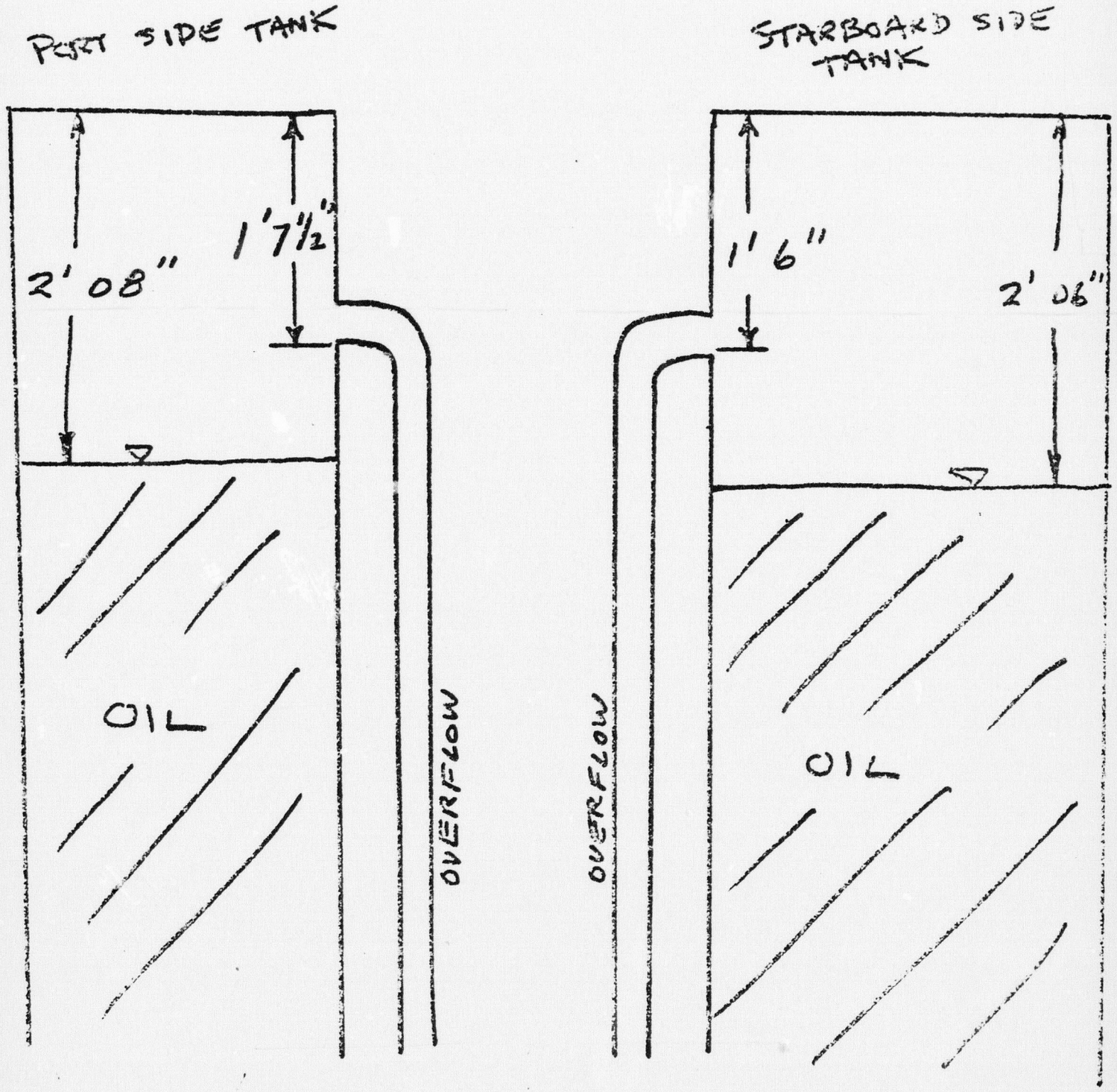
p. 313

POINTE-A-PIERRE -LYSEKIL

January 10, 1971

1500	Boat and fire drills carried out
1600	Completed drills.

DEFENDANTS' EXHIBIT 105.



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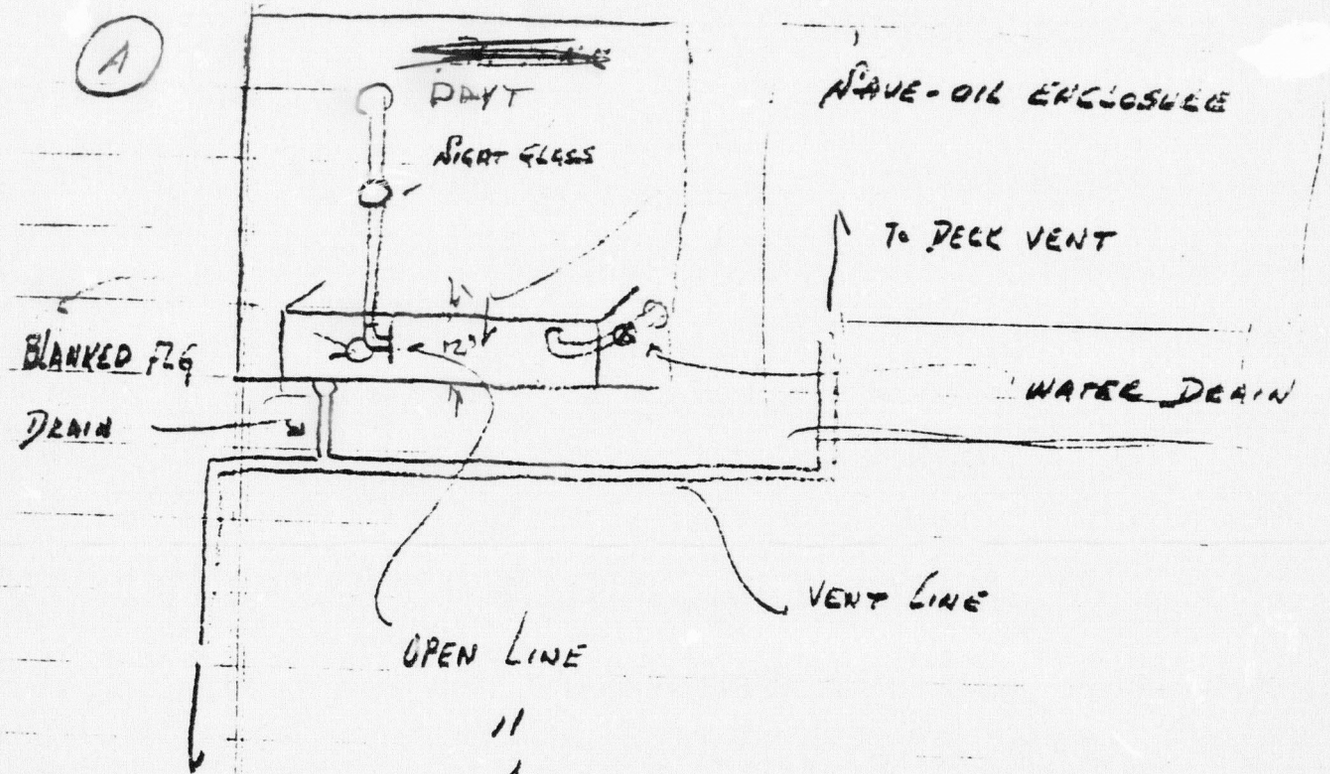
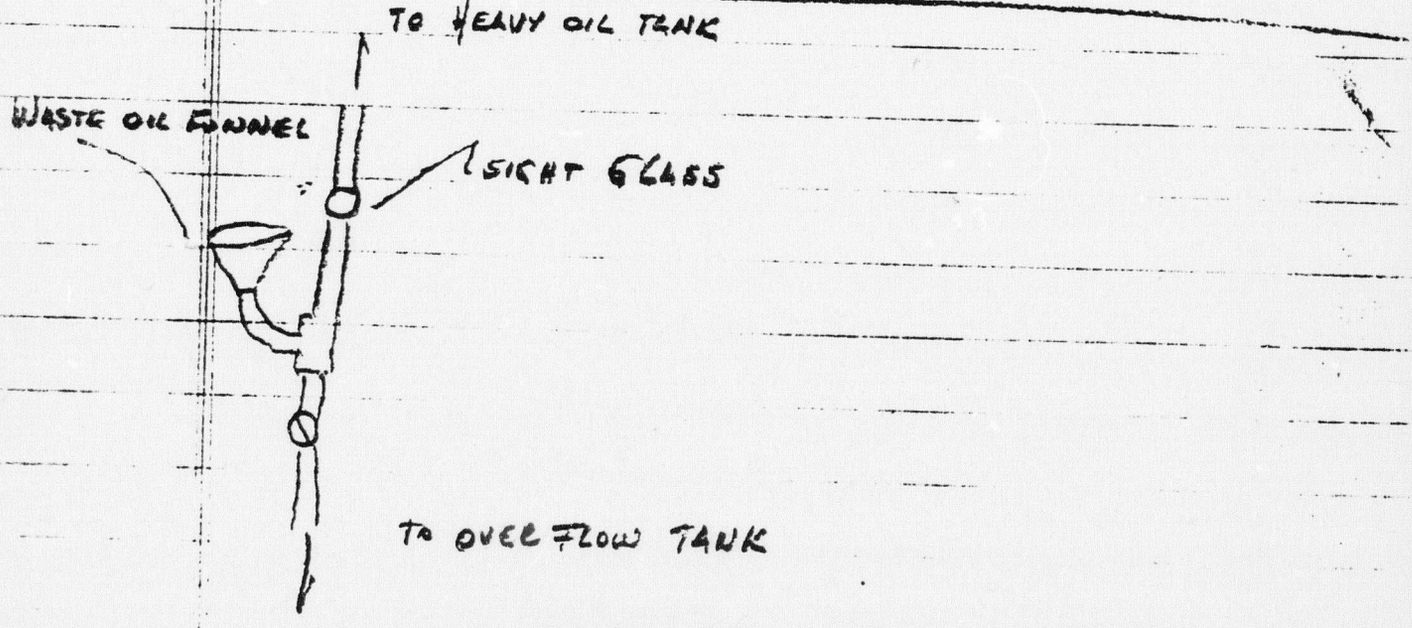


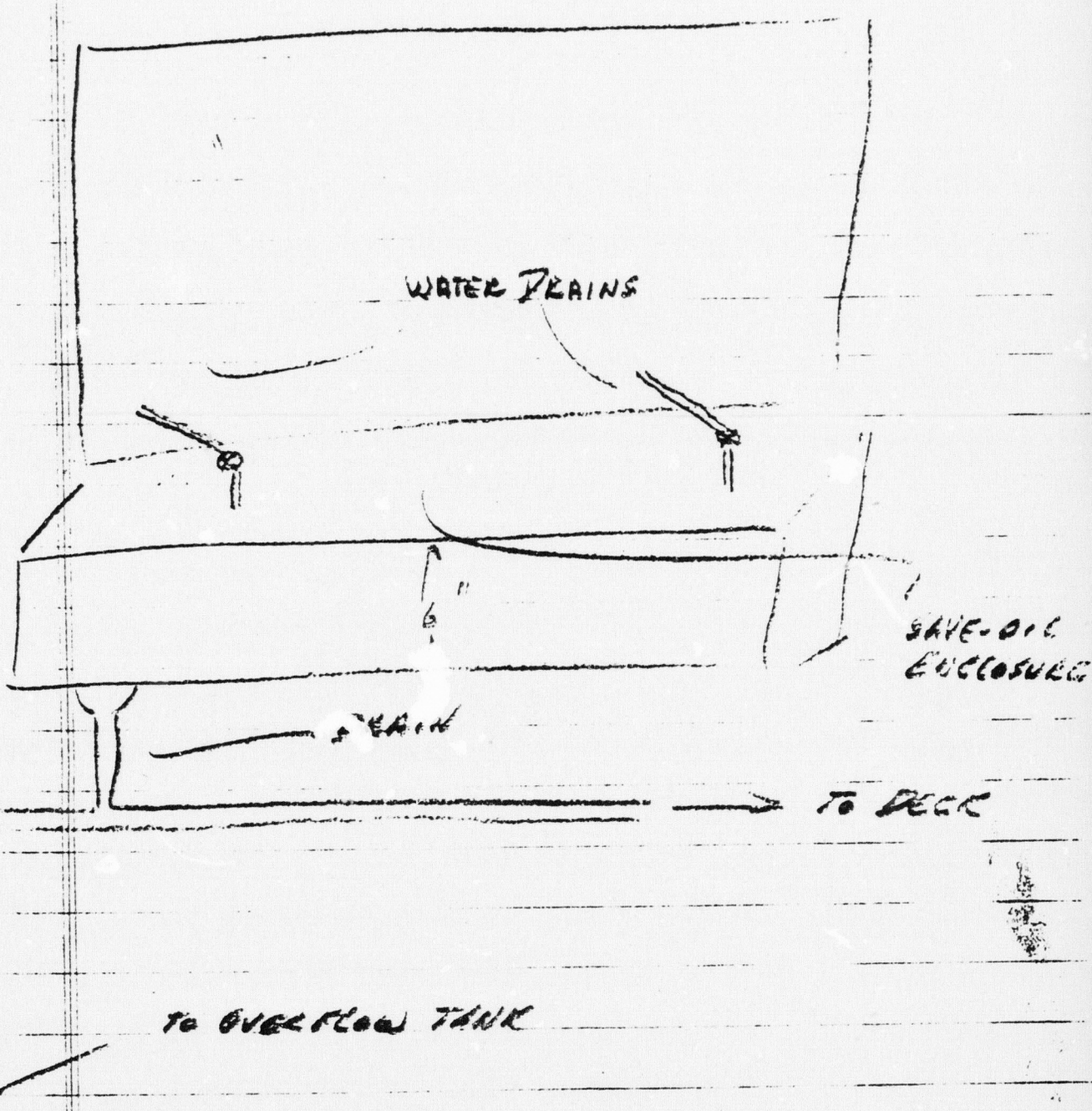
" ARRANGEMENT IN WAY MAY TAKES AT FOR'D END OF E/R "



" ARRANGEMENT IN WAY HEAVY OIL OVERFLOW LINE "

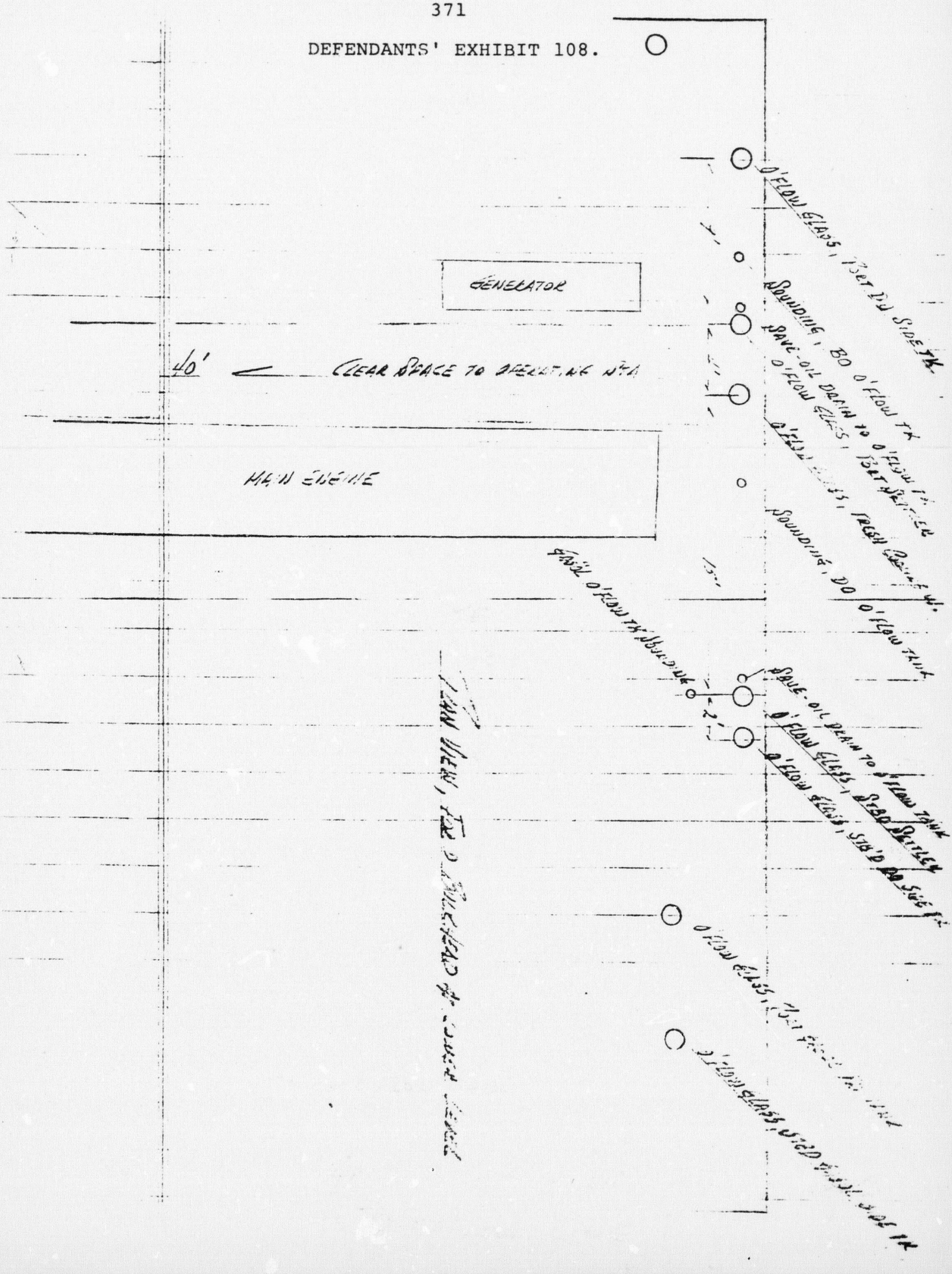
DEFENDANTS' EXHIBIT 107.

(C)

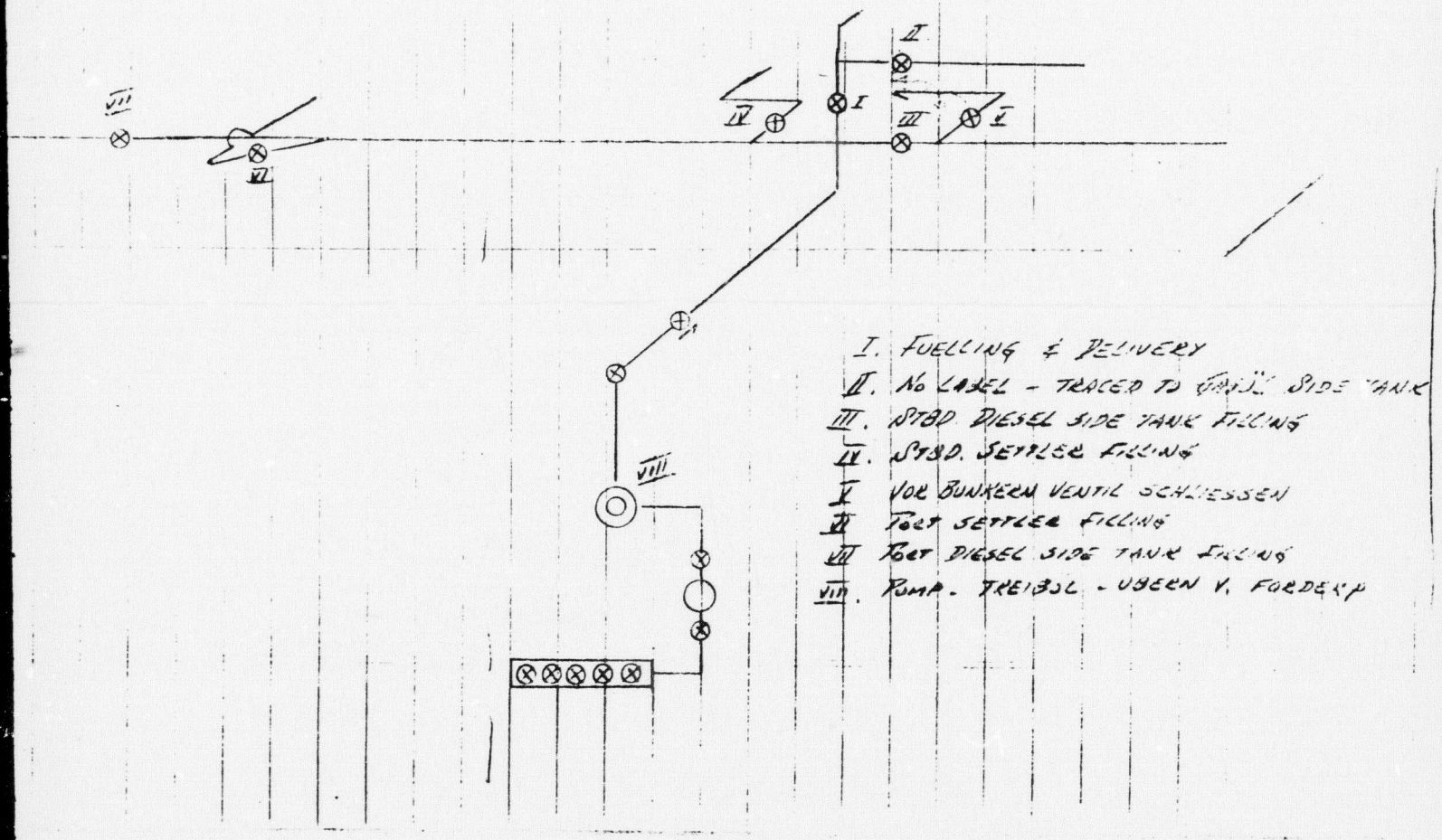


11 ARRANGEMENT IN WAY OF LIGHT OIL DAY TANK "

DEFENDANTS' EXHIBIT 108.



FUEL [illegible] AT FORE END OF [illegible]



I. FUELLING & DELIVERY
II. NO LABEL - TRACED TO [illegible] SIDE TANK
III. STBD DIESEL SIDE TANK FILLING
IV. STBD. SETTLER FILLING
V VOR BUNKERN VENTIL SCHLIESSEN
VI FORT SETTLER FILLING
VII FORT DIESEL SIDE TANK FILLING
VIII. PUMP. TREIBÖL - UBERN V. FORDERP

Defendant's Exh 109 # 372

REPLY BRIEF OF MOBIL OIL CORPORATION AND MOBIL SALES AND SUPPLY CORPORATION.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NAVIEROS OCEANIKOS, S.A., owner of the Liberian Vessel TRADE DARING, Plaintiff, - against - S.T. MOBIL TRADER, her engines, boilers, etc., MOBIL OIL CORPORATION, the owner of the MOBIL TRADER, and MOBIL SALES & SUPPLY CORPORATION, Defendants and Third-Party Plaintiffs, - against - TRADE & TRANSPORT INC., Third-Party Defendant.	72 Civ. 1225 (MJP)

REPLY BRIEF OF MOBIL OIL CORPORATION AND MOBIL SALES AND SUPPLY CORPORATION

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Third-Party Plaintiffs
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New York, New York 10038

DONALD M. WAESCHE, JR.
LOUIS G. JULIANO
Of Counsel

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NAVIEROS OCEANIKOS, S.A., owner of the Liberian Vessel TRADE DARING,	:	
Plaintiff,	:	
-against-	:	72 Civ. 1225 (MJP)
S.T. MOBIL TRADER, her engines, boilers, etc., MOBIL OIL CORPORATION, the owner of the MOBIL TRADER, and MOBIL SALES & SUPPLY CORPORATION,	:	
Defendants and Third-Party Plaintiffs,	:	
-against-	:	
TRADE & TRANSPORT INC.	:	
Third-Party Defendant.	:	

REPLY BRIEF OF MOBIL OIL CORPORATION AND MOBIL SALES AND SUPPLY CORPORATION.

POINT I.

COMMENTS ON PLAINTIFF'S "CHRONOLOGICALLY IMPOSSIBLE" ARGUMENT, OR THERE IS NOTHING WRONG WITH FIGURES BUT ***.

Plaintiff employs 2310 hours as the time when its countdown starts for discharging the 349 tons of bunkers in Nos. 3 port and starboard tanks at a maximum rate of 1500 rpms or 3.3 tons per minute. It arrives at 2310 by using Milano's testimony that it took about 20-25 minutes to complete pumping No. 1 port tank. It chooses to ignore, because of the obvious advantage to be gained, the physical fact that No. 1 port tank only held 25 tons (actually 24.74 tons) of cargo. If No. 1 port tank only held 25 tons of oil, it could not have taken 25 minutes to pump out 25 tons, i.e. one ton per minute. It is submitted that pumping of No. 1 port tank only took 9 minutes, not 20 to 25 minutes. Pumping started at about 2250 hours, and proceeded at a rate of 1000 rpms for 5 minutes. This meant that 11 tons of cargo were discharged during that time. (If 1500 rpms delivered approximately 3.3 tons per minute, then 1000 rpms delivered $\frac{1000}{1500}$ x 3.3 = 2.2 tons x 5 minutes = 11 tons). This left 13.74 tons remaining in that tank to be discharged. (24.74 - 11 = 13.74). At 2255, the speed of the pump was increased to a maximum speed of 1500 rpms or approximately 3.3 tons per minute.

The remaining 13.74 tons were therefore discharged in about 4 minutes, or at 2259 hours (13.74 ÷ 3.3 = 4.16). 2259 is a significant 11 minutes earlier than 2310, the time plaintiff urges in its argument.

In the same vein, plaintiff states that, by 0045 hours, (the time set out in Mr. White's report) 70 tons still remained in No. 3 port tank. However, if by 0045, 70 tons still remained in No. 3 port tank, then only 303.8 tons were pumped out up to that time (373.8 - 70 = 303.8). The M/V TRADE DARING was capable of receiving 371 tons.

Assuming arguendo plaintiff's argument, this further means that the pumping rate was only 2.76 tons per minute.* If one applies the rate of 2.76 tons per minute for the next 5 minutes (to arrive at 0050, the time Milano was allegedly told to stop again), we obtain an additional amount discharged, of 13.8 tons, for a total of 317.6 tons. Once again, this figure of 317.6 tons is below the actual available space in the vessel's fuel tanks and would have been insufficient to cause any overflow.

More importantly, if plaintiff's "chronologically impossible" argument is followed, it means that the MOBIL

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* See Appendix A

TRADER would have returned to her loading terminal at Port Mobil with a shut-out of 56.2 tons, even assuming she had continued to pump until 0050. That simply is not the proof in this case. The delivery receipt and the activity report (Trial Exhibits 78 and 82) indicate no such shut-out.

The defendants, of course, do not mean to imply that only 317.6 tons were discharged at the slow rate of 2.76 tons per minute, or that there was a shut-out of 56.2 tons, but merely point out that 70 tons could not have been remaining at 0045 as plaintiff wants this Court to believe.

This discussion illustrates how plaintiff's calculations simply ignore the physical facts.

The uncontroverted facts of this case are:

(1) That all of the tanks of the MOBIL TRADER were empty prior to taking on cargo at Port Mobil for the M/V TRADE DARING.

(2) That 375 tons of diesel oil was ordered by plaintiff through its agents.

(3) That only 373.8 tons of diesel oil were loaded aboard the MOBIL TRADER for the M/V TRADE DARING.

(4) That all 373.8 tons were delivered, and all tanks aboard the MOBIL TRADER were empty following completion of bunkering.

Additionally, in keeping within the parameters of times set forth in documents in evidence, the following takes on importance.

The document which has been used to obtain the starting point of commencement of pumping is the log book of the MOBIL TRADER.* A review of the MOBIL TRADER's log book reveals that each and every entry relating to time, without exception, ends in a "5" or "0". It is therefore not unreasonable to assume that the loading may have commenced at a time other than 2250.

Plaintiff's argument relies upon exacting time intervals when in fact all times are imprecise.

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* All of the plaintiff's documents contain conflicting times for the commencement of bunkers, i.e., the M/V TRADE DARING's rough deck log book extract reads 2255 hours (Trial Exhibit 18-A). The M/V TRADE DARING's rough engine log book reads 2215 hours (Trial Exhibit 7-A). The Report of Vessel Casualty or Accident to the Republic of Liberia (Trial Exhibit 71) reads 2140.

Even if one assumes that the times of commencement of discharge and shut-down are as exact as the plaintiff would have this court believe, nevertheless 373.8 tons of diesel oil could have been delivered to the TRADE DARING by about 0040. All one needs to accomplish this is a pumping rate of 3.59 tons per minute, or a mere .29 tons in excess of the rate approximated by pumpman Milano.*

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* See Appendix B

POINT II

BUNKERS WERE NOT BEING PUMPED BY THE MOBIL TRADER AT THE TIME PILOT DEL GRECO BOARDED THE M/V TRADE DARING.

The following is addressed to certain remarks made in connection with plaintiff's witness, McAllister pilot, Del Greco, who was aboard the M/V TRADE DARING, and, who for some unexplained reason, although available here in New York, was not called upon to testify.

Plaintiff states only part of the testimony when it says on page 27 of its brief that pilot Del Greco did not notice anyone on the deck of the MOBIL TRADER although it was fairly well illuminated. The following testimony is set forth to clarify this point (Trial Exhibit 94, p. 35 by Mr. Waesche):

"Q. Can you state whether or not there was anybody on the deck of the bunkering barge?

A. No. I didn't see anyone on the deck.

Q. That didn't mean however that there could have been somebody there?

A. There could have been somebody there. I just didn't see anyone."

In connection with Del Greco's testimony of "the hose swinging around fore and aft and up and down in the saddles kind of violently", we believe the following testimony from Del Greco is also in order. (Trial Exhibit 94, pages 36-37):

"Q. Do you know whether the pumps on the bunkering barge were operating?

A. No.

Q. Do you know whether any oil was coming through the line which you observed?

A. No, it's a solid line. It's not transparent. I don't know if there was any oil going through it or not.

Q. Do you know what kind of engine was aboard the bunkering barge that was in operation?

A. No. I just know - -

Q. An engine

A. An engine or maybe two engines going because the noise they make when they run, and I know they were running full or near full because of the tremendous amount of noise, and the tremendous amount of exhaust smoke coming up from the bunkering barge.

Q. But, what engine aboard that bunkering barge you have no idea of?

A. I couldn't swear to it, no."

Captain Banks testified that when the MOBIL TRADER is delivering bunkers at the maximum rate, there is no motion on the cargo hose (T.M. p. 353). Similarly, Milano testified that the cargo hose would be stationary with the pump operating at full capacity because of the cargo flowing through the hose. It's only common sense. One only has to look at the commonplace things in everyday life to see that this testimony should be believed. For example, a gasoline hose at a service station, pumping fuel into an automobile does not swing around "fore and aft, up and down, kind of violently." A garden hose or a fire hose, as long as the end is held, also has a steady, stationary, firm appearance. The pressure of the fluid in the hose makes it rigid and keeps it that way. If Del Greco saw any motion in the hose, it could only be attributed to the barge surging alongside the vessel in response to the wake of passing vessels. Since the Bass Oil Terminal is located parallel to the ship channel, a passing vessel could have easily caused the MOBIL TRADER to surge, thereby imparting motion to the hose.

In addition, the hose would not be delivering bunkers at the time Del Greco saw it for two reasons, which cannot be refuted:

(1) Del Greco claims he saw the hose behave this way about 10-15 seconds before the casualty which took place at 0052 hours. At 0050 hours Bafaloukos allegedly told Milano to stop for a second time and Bafaloukos testified quite clearly that he saw Milano close a valve and reduce the speed of his engine (Trial Exhibit 45, p. 33). It is submitted that the only engine Del Greco heard was the port engine which was used to energize the hydraulic system for raising and lowering the boom.

(2) If the hose were delivering bunkers when Del Greco saw it, which was 10-15 seconds before the casualty, then Milano could not have had an opportunity to blow out the line. Furthermore, if the line could not be blown clear of oil, then Milano would have had an oil spill from the hoses on the deck of the M/V TRADE DARING when he broke the connection. Milano testified that he saw no oil when he broke the connection (T.M. p. 407). At this point, one glance at Trial Exhibit 1, in which Captain Banks identified his 4 inch 12 foot hose at the bunkering manifold, will show that the deck is free and clear of any oil spill.

BEST COPY AVAILABLE

Once again, the physical facts belie the plaintiff's theory in this case.

Furthermore, we think it only fair to point out that Del Greco did not tell the MOBIL TRADER to leave as quickly as plaintiff would like this Court to believe, on page 28 of its brief. Defendant calls the Court's attention to the bottom of page 18 and the top of page 19 of Trial Exhibit 94 for the pilot's actions prior to ordering the MOBIL TRADER away. It indicates that following his initial startled reaction to the fire which took place while he was walking back athwartships to the port side, he continued to go to the rail on the port side, calling tugboat personnel on his walkie-talkie. Then he advised the Hess Oil personnal on the dock that there was a fire on board. Then he went back to order the MOBIL TRADER away from the side of the vessel. It was within this time period that Captain Banks came back down the deck and descended the ladder to the MOBIL TRADER unseen by Del Greco who was budy directing actions on the port side.

POINT III.

THE LEVELS OF OIL IN THE PORT AND STARBOARD DIESEL OIL SIDE TANKS, STANDING AT 1 FOOT BELOW THE OVERFLOW OUTLETS FOUND BY CAPTAIN HALBOTH DURING HIS INITIAL INSPECTION OF THE VESSEL, WAS NOT CAUSED BY EXPANSION AND CONTRACTION FROM THE FIRE.

There was no proof offered by the plaintiff, other than an opinion by Argyriadis, without substantiation in fact, that the fire caused the levels of oil to come to rest at a point 1 foot below the overflow outlets. Argyriadis was of the opinion that the temperature of the oil would have to rise approximately 50° in the port side tank and 40° in the starboard side tank (T.M. 462) in order to achieve an expansion and contraction which would have removed the oil from these tanks through the overflow outlets. When cross-examined (T.M. pp. 467 through 473) as to the basis in fact for his determination of this temperature rise, he was unable to supply the court with factual criteria. It was his belief that the temperatures in the side tanks would rise to those temperatures.

Captain Maclean, during his re-cross-examination by Mr. Daly, testified regarding several important factors which would militate against a temperature rise sufficient to have caused the diesel oil to expand enough to reach the

overflow outlets; (a) the limited boundary between the engine room bulkhead and the side tanks, (b) the empty cargo tank spaces on the forward side of the tanks, and (c) the oil in the tanks would be cooled by the cold water in the harbor (T.M. 201-205; Trial Exhibits 70, 71 and 100).

Argyriadis testified that there was a 2% volumetric change of oil in the tank (T.M.472). But Captain Maclean testified that in order to obtain a reliable assessment of the volumetric change, you would have to have some reliable assessment as to the temperature change (T.M. 203). There is no data on which to base a reliable assessment as to the change in temperature, merely conjecture on the part of Argyriadis.

In addition, the ullages obtained by Captain Halboth were just about the same in each tank (2'08" in the port tank and 2'06" in the starboard tank). It would have been unusual for each tank to displace the same difference in height of oil due to heat expansion and contraction, when a glance at Trial Exhibits 12 and 54 (Capacity Plan and Fuel Oil Piping Diagram) show that these tanks are not of the same capacity nor do they possess the same configuration or surface areas of exposure on the inside of the engine room. It is submitted that in order for plaintiff's theory to be valid, the tanks would have

had to be the same size and have equal exposure area to the fire.

It is interesting to note that the measurements of the level of oil in the side tanks obtained by Bafaloukos prior to the fire* and those obtained by Captain Halboth subsequent to the fire are for all practical purposes identical.

We submit that there was no overflow of oil from the side tanks. Rather, the overflow occurred because Bafaloukos failed to close the valve on the gas oil tank (see defendant's post trial brief, page 65).

---

* Bafaloukos observed the oil just barely touching the second rung of the ladder in the side tank, i.e. from 2 to 2.5 feet from the tank top.

POINT IV

EVEN IF 25 TONS WERE PUMPED INTO THE SIDE TANKS FROM 0042 TO 0050, THE DOUBLE BOTTOM OVERFLOW TANKS WOULD NOT HAVE FILLED TO CAPACITY.

Assuming arguendo that 25 tons were pumped in from 0042 to 0050, it is submitted that only 19.65 tons of that amount would have passed thru the ovefflow outlets of the side tanks down into the overflow double bottom tanks.

For the sake of this discussion, defendants will assume each and every fact favorable to the plaintiff's case and still plaintiff cannot prevail, i.e. (a) that pumping continued from 0042 to 0050, (b) that 25 tons were pumped in during that interval of time.

Trial Exhibit 14, the fuel tank calibration booklet, allows one to determine the exact quantity of oil in the port and starboard side tanks of the M/V TRADE DARING at any given level. Accordingly, one can also determine the quantity of oil between two given levels. It would take approximately 5.35 tons of diesel oil to fill the space between the level of the oil in the side tanks, as observed by Bafaloukos at 0042, and the level of the oil at the point of the overflow lines. Hence,

about 5.35 tons of oil must have been pumped into the side tanks after 0042 before the oil would start overflowing from these tanks. Subtracting that volume, i.e. 5.35 tons, from the 25 tons which plaintiff contends were pumped into the tanks of the M/V TRADE DARING between 0042 and 0050, one finds that only 19.65 tons could have overflowed from the side tanks into the center and starboard overflow double bottom tanks. The combined capacity of the center and starboard overflow double bottom tanks was 23.2 tons. Bafaloukos testified that these two overflow tanks were empty. Therefore, even assuming the facts most favorable to plaintiff, one concludes that an overflow from the M/V TRADE DARING side tanks could not have caused the fire.*

This once again plainly illustrates how the physical facts of this case completely belie any version offered by the plaintiff. This further proves that it was the gas oil side tank, not the diesel oil side tanks that had overflowed because Bafaloukos left the gas oil valve open.

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* See Appendix C

MISCELLANEOUS REPLIES

To page 43 of plaintiff's brief

It was not coincidental that the MOBIL TRADER loaded diesel oil in the No. 3 port and starboard tanks on the day following the casualty. No. 3 tanks are used exclusively for diesel oil (see delivery receipts and activity reports, Trial Exhibits 60 and 73 thru 82). In fact, on the day of the delivery to the M/V TRADE DARING, March 17, 1971, the MOBIL TRADER had just delivered a quantity of diesel oil from her No. 3 starboard tank to the M/V BAIE CAMEAU at Dyckman Street, Brooklyn. (See delivery receipt, Trial Exhibit 77).

To pages 57-59 (Fire fighting) of plaintiff's brief

One final note as to the fire fighting efforts of the crew is in order. At the time of the only fire drill held on board the M/V TRADE DARING, i.e. January 10, 1971, the master Petros Giallorakis, the acting second engineer Andreas Spetsiotis and the acting third engineer Theodoros Bafaloukos were not even on board the vessel.

Captain Giallorakis did not come aboard until February 27, 1971 (Trial Exhibit 49, p. 5). Acting second engineer Spetsiotis did not come aboard until January 23, 1971 (Trial Exhibit 47, p. 4). Acting third engineer Bafaloukos did not come aboard until January 25, 1971 (Trial Exhibit 45, p. 4). These three men, more than anyone else aboard the M/V TRADE DARING, were directly concerned with the fire fighting efforts.

To pages 62 thru 70 of plaintiff's brief (Vent System)

Plaintiff argues that there was no connection between the vent pipe system and the save oil system. Plaintiff completely ignores the testimony of Captain Halboth (T.M. pp. 224, 244) that the save oil drain lines led either directly to the overflow double bottom tanks or were connected into the vent lines leading from those tanks. Defendants' case does not depend on a connection between the vent lines and save oil lines, since a save oil drain line directly connected to an overflow tank presents exactly the same hazard of overflowing the save oil basins.

FINAL NOTE

We have limited our reply brief to meet what we consider to be the relevant facts and issues of this litigation. We are well aware of the numerous insinuations and innuendoes contained in plaintiff's main brief. All of them could be answered but such jetsam is not worthy of reply.

Respectfully submitted,

BIGHAM, ENGLAR, JONES & HOUSTON
Attorneys for Defendants
and third-party plaintiffs.

DONALD M. WAESCHE, JR.
LOUIS G. JULIANO
Of Counsel

APPENDIX A.

0045	-	stripping No. 3 port began (per Mr. White's
-2250	-	Discharging began report)

1 hr. 55 min.	Total time
- 2 min.	Time required to strip No. 1 port tank
1 hr. 53 min.	
- 2 min.	Time required to change over from No. 1 port to Nos. 3 port and starboard tanks
1 hr. 51 min.	
- 5 min.	At reduced rate of 1000 rpms (2250-2255)

1 hr. 46 min. = 106 minutes at maximum rate

303.8 tons discharged from 2250 to 0045
- 11.0 tons discharged at reduced speed of 1000 rpms.

292.8 tons discharged at maximum rate

292.8 tons divided by 106 minutes at the maximum rate equals 2.76 tons per minute.

APPENDIX B.

0040	-	time No. 3 was about pumped out (per Milano's
-2250	-	time pumping commenced. testimony)

1 hr. 50 min.	
- 2 min.	time required to strip No. 1 port tank

1 hr. 48 min.	
- 2 min.	time required to change over from No. 1 port tank to Nos. 3 port and starboard tanks

1 hr. 46 min.	
- 5 min.	pumping at reduced rate of 1000 rpms (2250 to 2255)

1 hr. 41 min. pumping at maximum rate of 1500 rpms.

1 hr. 41 min. = 101 minutes at the maximum rate.

373.8	total tons delivered
- 11.0	tons delivered at reduced rate of 1000 rpms (for
362.8	tons pumped at maximum rate. 5 min.)

362.8 tons divided by 101 minutes, equals a maximum rate of 3.59 tons/min.

3.59 tons/min. - 3.30 tons/min. = .29 tons/min.

APPENDIX C.

Assume that the second ladder rung is 2 feet down from the top of the tank. Trial Exhibit 14, page 4, contains the volumetric capacities for the port side tank, and page 5 contains the capacities for the starboard side tank.

PORT SIDE TANK

Height of Tank	44'09"
Distance from tank top to second ladder rung	2'00"
Height of oil in tank at the second ladder rung	42'09"

At 42'09", the volume of the tank is 202.6 cubic meters. At 43'01-1/2" (the overflow outlet) the volume of the tank is 204.7 cubic meters.

204.7 cubic meters
-202.6 " "
2.1 cubic meters (the volume measured between the level at second ladder rung and the level of the outlet).

STARBOARD SIDE TANK

Height of Tank	44'09"
Distance from tank top to second ladder rung	2'00"
Height of Oil in Tank at the second ladder rung	42'09"

APPENDIX C (continued)

At 42'09" the volume of the tank is 253.0 cubic meters.

At 43'03" (the overflow outlet) the volume of the tank is 257.2 cubic meters.

257.2 cubic meters
- 253.0 " "
4.2 cubic meters (the volume measured between the level at the second ladder rung and the level of the outlet).

Adding 2.1 cubic meters for the port tank to the 4.2 cubic meters obtained in the starboard tank gives a total volume of 6.3 cubic meters.

There are 1664.27 U.S. gallons in 6.3 cubic meters (6.3 x 264.17 = 1664.27). There are 39.62 barrels in 1664.27 U.S. gallons (1664.27 ÷ 42 = 39.62). There are 5.35 tons of oil in 39.62 barrels (39.62÷ 7.396 = 5.35 tons [T.M. p. 330]). (25 tons - 5.35 tons =19.65 tons which could have overflowed into the overflow tanks).

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